DRAWING INDEX

	DRAWING #	DRAWING TITLE
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	H-2-830825 SHT 1 OF 5	ABBREVIATIONS/LEGEND/GENERAL NOTES
	H-2-830825 SHT 2	ABBREVIATIONS/LEGEND/GENERAL NOTES
	H-2-830825 SHT 3	ABBREVIATIONS/LEGEND/GENERAL NOTES
	H-2-830825 SHT 4	ABBREVIATIONS/LEGEND/GENERAL NOTES
	H-2-830825 SHT 5	ABBREVIATIONS/LEGEND/GENERAL NOTES
	CIVIL	
	H-2-830826	EXISTING CONDITIONS SITE PLAN
SCHEDULE A	H-2-831130	SITE & ACCESS PLAN
	H-2-831134	RAW WATER TIE-IN SITE PLAN & DETAILS
	H-2-831135	RAW WATER TIE-IN DETAILS
	H-2-831138 SHT 1 OF 2	ELECTRICAL PRIMARY SERVICE SITE PLAN
	H-2-831138 SHT 2	ELECTRICAL PRIMARY SERVICE SITE PLAN & PROFILE
	H-2-831140 SHT 1 OF 3	ELECTRICAL DETAILS
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	H-2-831140 SHT 3	ELECTRICAL DETAILS
	H-2-830827	OVERALL SITE DEVELOPMENT PLAN
	H-2-830828 SHT 1 OF 3	CELLS 1 AND 2 SITE AND ACCESS PLAN
	H-2-830828 SHT 2	SITE ACCESS/INFILTRATION AREA CIVIL DETAILS
	H-2-830828 SHT 3	INFILTRATION AREA PLANS & DETAILS
	H-2-830829 SHT 1 OF 2	CELLS 1 AND 2 SUBGRADE PLAN
	H-2-830829 SHT 2	CELLS 1 AND 2 SUBGRADE CONTROL
	H-2-830830	CELLS 1 AND 2 GRADING AND DRAINAGE PLAN
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	H-2-830833	SUBGRADE LAYER GRADING SECTIONS
	H-2-830834	OPERATIONS LAYER GRADING SECTIONS
	H-2-830835 SHT 1 OF 4	GRADING AND DRAINAGE SECTIONS AND DETAILS
	H-2-830835 SHT 2	GRADING AND DRAINAGE SECTIONS AND DETAILS
	H-2-830835 SHT 3	GRADING AND DRAINAGE SECTIONS AND DETAILS
	H-2-830835 SHT 4	GRADING AND DRAINAGE SECTIONS AND DETAILS
	H-2-830836	CELLS 1 AND 2 PRIMARY LINER PLAN
	H-2-830837	CELLS 1 AND 2 SUMP PARTIAL PLANS
	H-2-830838	GEOSYNTHETICS SECTIONS AND DETAILS
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	H-2-830845	LEACHATE COLLECTION PIPING PLAN
	H-2-830846	LEACHATE TRANSFER PIPING PLAN
	H-2-830847	219A & 219E PLAN AND SECTIONS
	H-2-830848	LCRS/LDS SECTIONS AND DETAILS
	H-2-830849	LCRS/LDS SECTIONS AND DETAILS
	H-2-830850	LCRS/LDS SECTIONS AND DETAILS
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	H-2-830861	BUILDING(S) ELECTRICAL CONTROL PLAN
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	H-2-830872	STRUCTURAL DETAILS

U.S. DEPARTMENT OF ENERGY

OFFICE OF RIVER PROTECTION, RICHLAND, WASHINGTON

200 EAST AREA

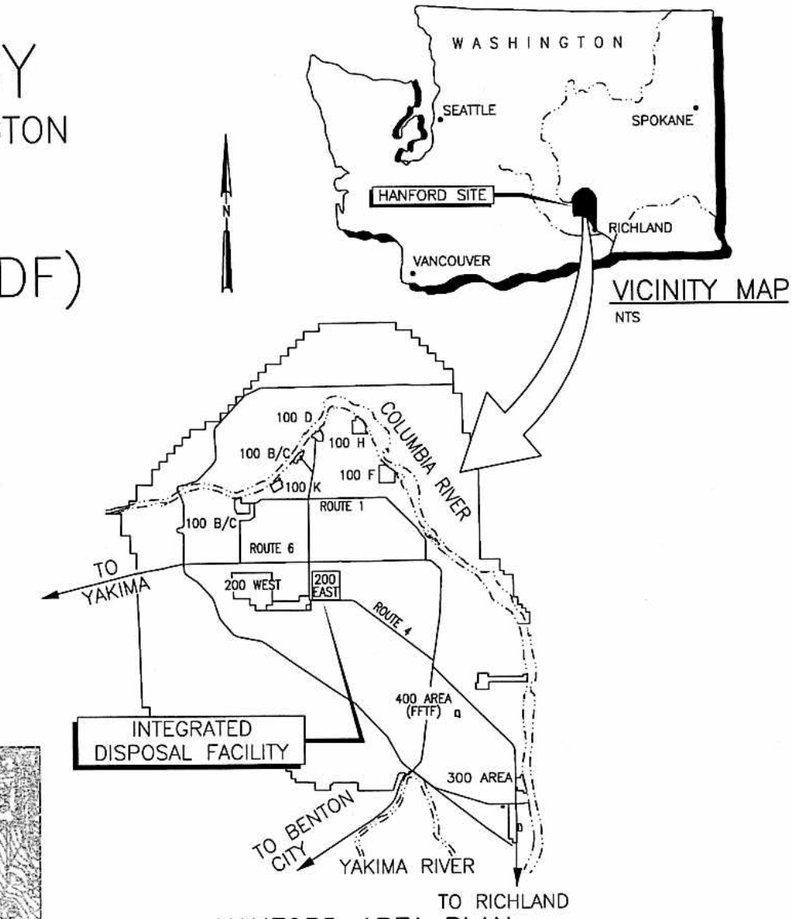
INTEGRATED DISPOSAL FACILITY (IDF)

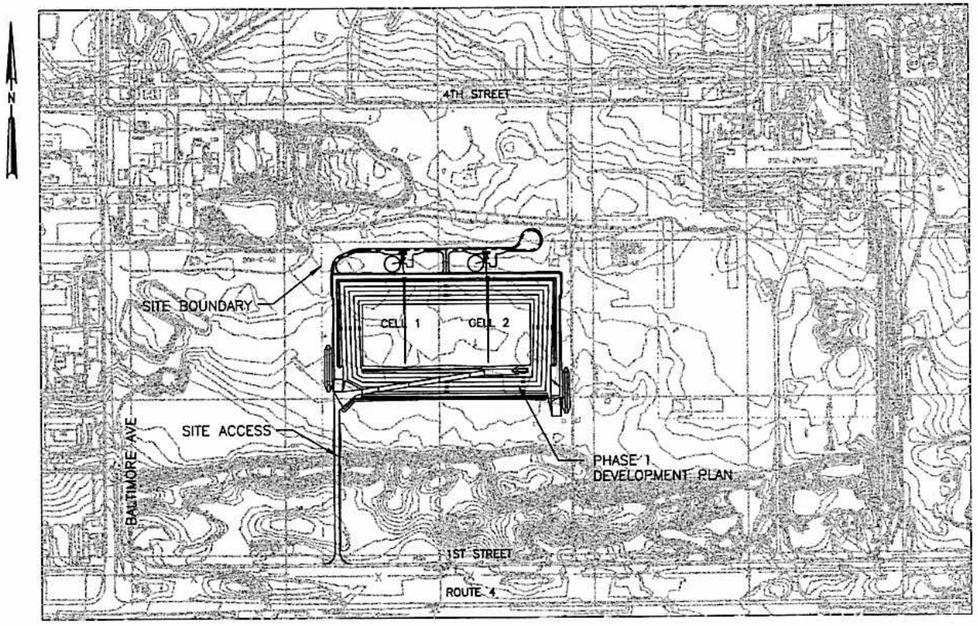
DETAILED DESIGN DRAWINGS

FINAL DESIGN SUBMITTAL

PREPARED BY

CH2MHILL





PROJECT LOCATION PLAN

0 500 1000 1500

1"=500'

BLDG. NO.

INDEX NO.
0000
0100
0209

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

2/9/04
JAY G. DEHNER
STATE OF WASHINGTON
023455
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11/01/05

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE	MFD REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES		REVISIONS		

NAME	DATE	COMPANY
DRAWN BY C BONTZ	2/9/04	CH2MHILL
CHKD APPROVED J DEHNER	2/9/04	CH2MHILL
DESIGN AUTHORITY E GIRGIS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF TITLE/INDEX/ LOCATION MAPS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E		H-2-830824	A

SCALE AS SHOWN | EDT 634144 | SHEET 1 OF 1

XXXX PLOTID XXXX

ORP_TB_D [12-02].DWG

GENERAL ABBREVIATIONS

#	NUMBER
%	PERCENT
&	AND
<	LESS THAN
<=	LESS THAN OR EQUAL TO
=	EQUAL
>	GREATER THAN
>=	GREATER THAN OR EQUAL TO
@	AT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORATION OFFICALS
AC	ASPHALTIC CONCRETE OR AIR CONDITIONER
ADD'L	ADDITIONAL
ADMIN	ADMINISTRATION
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BLVD	BOULEVARD
BTWN	BETWEEN
CB	CATCH BASIN
CERCLA	COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT
CDN	COMPOSITE DRAINAGE NET
CL	CENTER LINE
CLR	CLEARANCE
CNRTL	CONTROL
CPE	CORRUGATED POLYETHYLENE PIPE
CSBC	CRUSHED SURFACE BASE COURSE
CSTC	CRUSHED SURFACE TOP COURSE
CV	CHECK VALVE
DBL	DOUBLE
DI	DUCTILE IRON
DIA	DIAMETER
DOE	DEPARTMENT OF ENERGY
DPI	DIFFERENTIAL PRESSURE INDICATOR
DWG	DRAWING
E	EAST
ELEV	ELEVATION
ENCL	ENCLOSURE
EXST	EXISTING
FT	FOOT/FEET
FE	FLOW ELEMENT
FE	FLOW ELEMENT
FH	FIRE HYDRANT
FIT	FLOW INDICATING TRANSMITTER
FLG	FLANGE
FQI	FLOW TOTALIZING INDICATOR
GRND	GROUND
GCL	GEOSYNTHETIC CLAY LINER
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	HIGH
HSWB	HANFORD SITE WELL BENCHMARK
HDPE	HIGH DENSITY POLYETHYLENE
HOR	HORIZONTAL
HS	HAND SWITCH
IE	INVERT ELEVATION
ID	INSIDE DIAMETER
IDF	INTEGRATED DISPOSAL FACILITY
INST	INSTALLATION
JAN	JANUARY
JSH	POWER SWITCH HIGH
LCP	LEVEL CONTROL PANEL
LCRS	LEACHATE COLLECTION AND RECOVERY SYSTEM
LDE	LEAK DETECTION ELEMENT
LDS	LEAK DETECTION SYSTEM
LE	LEVEL ELEMENT
LH	LEACHATE HANDLING
LHCP	LEACHATE HANDLING CONTAINMENT PIPE
LI	LEVEL INDICATOR
LL	LOW LOW
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
LSLL	LEVEL SWITCH LOW LOW
LT	LEACHATE TRANSFER OR LEVEL TRANSMITTER
LTCP	LEACHATE TRANSFER CONTAINMENT PIPE
M	MANHOLE
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MTLS	MATERAILS
MIN	MINIMUM
MJ	MECHANICAL JOINT
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NE	NORTHEAST
NO	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPS	OPERATIONS
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
P	PUMP
PC	POINT OF CURVATURE
PE	POLYETHYLENE OR PLAIN END
PI	POINT OF INTERSECTION OR PRESSURE INDICATOR
PL	PLATE
PNT	POINT
PT	POINT OF TANGENCY
PRC	POINT OF RADIAL CURVE
PVC	POLYVINYL CHLORIDE
R	RADIUS
RD	ROAD
REF	REFERENCE
REQD	REQUIRED
REV	REVISION
RF	RADIO FREQUENCY
RW	RAW WATER
S	SOUTH
SCHD	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SF	SQUARE FOOT/FEET
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
STA	STATION
STL	STEEL
SST	STAINLESS STEEL
SW	SOUTHWEST OR SWITCH
TBX	TERMINATION ENCLOSURE
TE	TEMPERATURE ELEMENT
TEMP	TEMPORARY
TJB	TERMINATION JUNCTION BOX
TK	TANK
TYP	TYPICAL
TI	TEMPERATURE INDICATOR
TIT	TEMPERATURE INDICATING TRANSMITTER
UH	UNIT HEATER
V	VALVE
VB	VACUUM BREAKER
VERT	VERTICAL
W	WEST
W/	WITH
WISHA	WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORATION
YAL	ALARM INDICATING LIGHT
YH	YARD HYDRANT
YL	INDICATOR LIGHT

GENERAL LEGEND SYMBOLS

▲ HSWB-	EXISTING SURVEY MONUMENT
▽	SOILS SAMPLE AND SURFACE PITS
⊗ 110.50	SPOT ELEVATION
299-	EXISTING MONITORING WELL
C-	EXISTING BOREHOLE LOCATION
045	SURVEY CONTROL POINT
---720---	EXISTING GROUND CONTOUR
—740—	FINISH GRADE CONTOUR
—x—	EXISTING FENCE
— . . —	SITE BOUNDARY (OPERATION LIMITED TO WITHIN THIS BOUNDARY)
—⊗—⊗—	OVERHEAD POWER
—RW—	EXISTING RAW WATER
—C—	13.8 KV 3-PHASE 3-WIRE CIRCUIT
—STM—	ABOVE GROUND STEAM LINE
—SW—	SANITARY WATER
—SL—	STREET LIGHTING
	EXISTING ROAD
E 1883000 N 442000	PROJECT COORDINATES
	GRADE/SLOPE DIRECTION DOWN
	DIRECTION OF CUT/FILL
3:1	SLOPE (HORIZONTAL TO VERTICAL)
	FIRE HYDRANT
⊗	YARD HYDRANT ISOLATION VALVE
	PUG MILL/FILL STATION ISOLATION VALVE

	EARTHFILL
	PREPARED SUBGRADE
	ADMIX LINER
	CDN
	GEOSYNTHETIC CLAY LINER
	DRAIN GRAVEL
	OPERATIONS LAYER
	CSBC
	CSTC
— — — —	GEOMEMBRANE
— · —	SEPARATION GEOTEXTILE
—·—·—	CUSHION GEOTEXTILE

GENERAL NOTES

1. SURVEY MONUMENT DATA SHOWN ON THIS DRAWING WAS DERIVED FROM THE NATIONAL GEODETIC SURVEY DATA BASE. THE CONTRACTOR SHALL FIELD VERIFY AND REESTABLISH EXISTING OR ESTABLISH NEW SURVEY CONTROL POINTS TO COMPLY WITH SPECIFICATIONS.
2. ALL DESIGN SCALES, GRIDS, DISTANCES, COORDINATES AND ELEVATIONS ARE IN FEET UNLESS OTHERWISE NOTED. GRADING PLAN CONTOUR INTERVAL IS 2 FT.
3. BASE MAPS TAKEN FROM 200 AREA TOPOGRAPHIC MAPPING DATABASE, AS PROVIDED BY HANFORD HGIS DEPARTMENT, DATED 1991. CONTOUR INTERVAL = 1.0 FT.
   HORIZONTAL DATUM: WASHINGTON STATE PLANE, SOUTH ZONE (FEET) NAD83 LAMBERT PROJECTION
   VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM, (FEET) NAVD88.
4. EXISTING UTILITIES SHOWN ON H-2-830826 ARE BASED ON HGIS SITE DATA MAPPING AND ARE APPROXIMATELY LOCATED. EXISTING UTILITIES ARE SHOWN FOR POTENTIAL INTERFERENCES THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF AND PRESERVING ALL UTILITIES INCLUDING THOSE NOT SHOWN OR INCORRECTLY SHOWN ON THE PLANS.
5. FOR TECHNICAL SPECIFICATIONS AND CALCULATIONS ASSOCIATED WITH DETAILED DESIGN OF INTEGRATED DISPOSAL FACILITY, SEE RPP-18486, RPP-18489 AND RPP-18515.
6. THE PROJECT SITE BOUNDARY IS SHOWN AND DEFINED ON DWG H-2-830826. CONDUCT ALL CONSTRUCTION ACTIVITIES WITHIN THE PROJECT SITE BOUNDARY AS SHOWN ON THE PLANS. SEE SITE BOUNDARY CONTROL TABLE ON DWG NO. H-2-830826 SHT 1.

SURVEY MONUMENT INFORMATION

(SEE NOTE 1)

MONUMENT AREA	MONUMENT DESIGNATION	ELEVATION NAVD88 (FEET)	WASHINGTON STATE COORDINATES (FEET)
200	HSWB-033	719.89	E 1882277.44 N 445372.90
200	HSWB-077	741.35	E 1883169.20 N 442240.79
200	HSWB-078	730.06	N 1888209.82 E 442376.36

SECTION AND DETAIL DESIGNATION

POINT AT WHICH SECTION OR DETAIL IS TAKEN

LETTER INDICATES DESIGNATION OF SECTION

A H-2-830800

INDICATES DRAWING WHERE SECTION IS SHOWN

NUMBER INDICATES DESIGNATION OF DETAIL

2

INDICATES DRAWING WHERE DETAIL IS SHOWN, INDICATES DETAIL IS SHOWN ON SAME DRAWING AS TAKEN, TYP.

POINT AT WHICH SECTION OR DETAIL IS SHOWN

LETTER INDICATES DESIGNATION OF SECTION

NOT TO SCALE SECTION A H-2-830800

INDICATES DRAWING WHERE SECTION IS TAKEN

NUMBER INDICATES DESIGNATION OF DETAIL

SCALE 1"=5'-0" DETAIL 2 H-2-830800

INDICATES DRAWING WHERE DETAIL IS TAKEN

JOHN N. WINTERS STATE OF WASHINGTON 30601 REGISTERED PROFESSIONAL ENGINEER 2/19/04

EXPIRES 01/04/04

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO.

INDEX NO.

CH2MHILL

DRAWING TRACEABILITY LIST				REVISIONS						
DWG NO	TITLE	REF NUMBER	TITLE	MFD	REV NO	DESCRIPTION	REV BY DATE	CHKR	ENGR COMPANY
		NEXT USED ON	REFERENCES	REV Ref					

NAME / DATE / COMPANY

DRAWN BY C. BOYD 2/19/04 CH2MHILL

DESIGN AUTHORITY E. GRIGG 2/19/04 CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ABBREVIATIONS/LEGEND/
GENERAL NOTES

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0000	H-2-830825	A
SCALE NONE	EDT 634144	SHEET 1 OF 5		

XXXX PLOTID XXXX

ORP_TB_D [12-02].DWG

DWG NO H-2-830825 SH 2 OF REV A

LINES:

- PRIMARY PIPING
- EQUIPMENT OR SECONDARY PIPING
- INSTRUMENTATION OR OTHER PIPING
- TANKS/PITS/ BUILDINGS
- ELECTRICAL POWER OR SIGNAL
- PNEUMATIC INSTRUMENT SIGNAL (VARIABLE)
- CAPILLARY TUBE (FILLED SYSTEM)
- MCS (SOFTWARE) DATA LINK
- FLEX HOSE
- ELECTROMAGNETIC SIGNAL (NOT GUIDED)
- BINARY SIGNAL

VALVES:

- GATE
- GLOBE
- NEEDLE
- BUTTERFLY
- CHECK
- PLUG
- BALL
- 3-WAY BALL
- ANGLE GLOBE
- AUTOMATIC DRAIN
- PRESSURE OR VACUUM RELIEF (ANGLE PATTERN)
- PRESSURE REDUCING REGULATOR (SELF CONTAINED)
- PRESSURE REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
- BACK PRESSURE REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
- 3-WAY TEMPERATURE CONTROL
- SELF REGULATING TEMPERATURE CONTROL
- REMOTE SENSING TEMPERATURE CONTROL
- AIR OPERATED
- SOLENOID
- 3-WAY SOLENOID
- 4-WAY SOLENOID
- 4-WAY DUAL SOLENOID
- PRESSURE SAFETY VALVE
- VACUUM BREAKER
- SAMPLE

VALVE ACTUATORS:

- DIAPHRAGM OPERATED
- DIAPHRAGM OPERATED WITH MANUAL OVERRIDE
- PNEUMATIC PISTON (SINGLE ACTING)
- PNEUMATIC PISTON (DOUBLE ACTING)
- MOTOR OPERATED
- ELECTRO-HYDRAULIC
- HAND OPERATED OR HANDWHEEL
- COCK

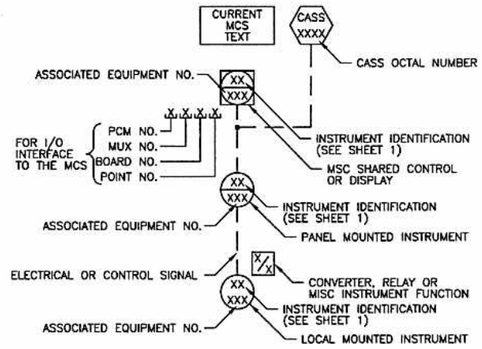
MEASURING ELEMENTS:

- FLOW ORIFICE
- FG — FLOW SIGHT GLASS
- LG — LEVEL SIGHT GLASS
- FI — FLOW INDICATOR (ROTAMETER)
- FIV — FLOW INDICATOR VALVED (ROTAMETER WITH ATTACHED VALVE)
- TE — TEMPERATURE ELEMENT (WITHOUT WELL)
- TE — TEMPERATURE ELEMENT (WITH WELL)
- FCV — FLOW CONTROL VALVE
- FS — FLOW SWITCH

INSTRUMENT SYMBOLS

- PRIMARY ELEMENT OR LOCALLY MOUNTED INSTRUMENT
- ANNUNCIATOR CABINET OR PANEL MOUNTED INSTRUMENT
- INSTRUMENT MOUNTED ON BACK OF PANEL
- INSTRUMENT MOUNTED AT AN AUXILIARY LOCATION (ie MCC)
- K — RELAY
- 1 — I — UNDEFINED INTERLOCK INTERLOCK CONNECTING POINT WITH IDENTIFIED CONTINUATION
- COMPUTER FUNCTION
- MONITOR AND CONTROL SYSTEM (MCS) SHARED DISPLAY (VIDEO SCREEN) IN CONTROL ROOM
- PROGRAMMABLE LOGIC CONTROLLER PRIMARY LOCATION
- PROGRAMMABLE LOGIC CONTROLLER FIELD MOUNTED
- 00 — ON-OFF
- 00A — ON-OFF-AUTO
- ACK — ACKNOWLEDGE
- ▲ — ANALOG INPUT
- △ — DISCRETE INPUT
- ▽ — DISCRETE OUTPUT

INSTRUMENT IDENTIFICATION:



MISCELLANEOUS SYMBOLS:

- ELECTRICAL CONNECTION
- PRE-FLTR — PRE-FILTER
- HEPA — HEPA FILTER
- F — FILTER
- L — LUBRICATOR
- T — STEAM OR AIR TRAP
- STRAINER
- REDUCER (SIZE DEFINED ON P&ID)
- DIAPHRAGM SEAL
- LEVEL ELEMENT
- HC — HOSE CONNECTION
- JET (EJECTOR)
- RUPTURE DISK (PRESSURE RELIEF)
- REMOTE JUMPER CONNECTOR (PIPE)
- REMOTE JUMPER CONNECTOR (3-WAY) — LETTERS SIGNIFY PORT IDENTIFICATION
- REMOTE JUMPER CONNECTOR (ELECTRICAL)
- HEATING ELEMENT (ELECTRIC)
- HEATER
- DMS — DEMISTER
- M — ROTARY MOTOR
- MCC — MOTOR CONTROL CENTER (ELECTRICAL SWITCH GEAR)
- MS — MOTOR STARTER (ELECTRICAL)
- SPRAY NOZZLE
- FLOOR DRAIN
- FLOOR DRAIN PLUG
- DRAIN FUNNEL
- BLIND FLANGE
- CONVEYING FLUID H-14-XXXXXX-2, Z XX — DRAWING CONTINUATION ARROW USED ONLY FOR LINES ENTERING OR LEAVING THE FACE OF THE DRAWING; CONTINUATION DRAWING AND SHEET NUMBER; DWG ZONE LOCATION
- HEAT EXCHANGER
- BACK FLOW PREVENTER
- FLEX HOSE
- FLANGED CONNECTION
- PLUGGED OR CAPPED LINE
- ENCASED LINE
- ENCASED LINE HEAT TRACE
- EXPANSION JOINT
- INDICATOR LIGHT (ALARM) (* = INDICATES COLOR) — COLOR LEGEND: A-AMBER, B-BLACK, BL-BLUE, G-GREEN, R-RED, Y-YELLOW, W-WHITE
- CABINET COOLING FAN
- CO — CLEAN-OUT
- VENTURI
- QUICK CONNECT
- HEAT TRACE
- BELL (ALARM)
- TEMPERATURE SENSING ELEMENT
- RADIATION SENSING ELEMENT
- ALARM HORN
- TV — VIDEO CAMERA
- SNUBBER
- BOTTLE
- BM — BENCHMARK
- BASKET STRAINER
- DUPLEX BASKET STRAINER
- M — MAGNETIC FLOW METER
- INTERFACE CONTROL

CONVERTER OR RELAY FUNCTION:

- I/P — CURRENT TO PNEUMATIC
- I/I — CURRENT TO CURRENT
- I/E — CURRENT TO VOLTAGE
- R/I — RESISTANCE TO CURRENT
- P/I — PNEUMATIC TO CURRENT
- E/I — VOLTAGE TO CURRENT
- Σ — SUMMING
- $\sqrt{}$ — ROOT EXTRACTION
- ∫ — INTEGRAL
- E/E — VOLTAGE TO VOLTAGE
- A/D — ANALOG TO DIGITAL
- D/A — DIGITAL TO ANALOG
- X — MULTIPLYING
- ÷ — DIVIDING

HVAC SYMBOLS

- AIR OPERATED DAMPER
- MANUAL OPERATED DAMPER
- M — MOTOR OPERATED DAMPER
- BACKDRAFT DAMPER

PUMPS AND BLOWERS:

- DIAPHRAGM PUMP
- HORIZONTAL SUBMERSIBLE PUMP
- HORIZONTAL SUBMERSIBLE PUMP W/ INTEGRAL LEVEL TRANSDUCER
- FLOOR SUMP PUMP
- BLOWER
- PUMP

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.

EDWARD JOHN THOMAS STATE OF WASHINGTON 38907 REGISTERED PROFESSIONAL ENGINEER
2/9/07
EXPIRES 8/4/05

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

CH2MHILL

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS					
DWG NO	TITLE	REF NUMBER	TITLE	MFD REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY		
		NEXT USED ON		REV NO					

NAME	DATE	COMPANY
DRAWN BY C BENTZ	2/9/07	CH2MHILL
CHKD APPROVED E THOMAS	2/9/07	CH2MHILL
DESIGN AUTHORITY E DIRKES	2/9/07	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ABBREVIATIONS/LEGEND/
GENERAL NOTES

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0000	H-2-830825	A

SCALE NONE | EDT 634144 | SHEET 2 OF

XXXX PLOTID XXXX

DRP_TB_D [12-02].DWG

CONDUIT:

- CONDUIT TURNED TOWARD VIEWER
- CONDUIT TURNED AWAY FROM VIEWER
- "T" CONDUIT BODY
- "L" CONDUIT BODY
- FLEX CONDUIT
- HOMERUN
- GROUND INDICATOR
- CONDUCTOR INDICATOR
- NEUTRAL INDICATOR
- EXPOSED CONDUIT
- NON EXPOSED CONDUIT

SWITCHES:

- S — SINGLE POLE TOGGLE SWITCH
- S_2 — DOUBLE POLE TOGGLE SWITCH
- S_3 — THREE WAY TOGGLE SWITCH
- S_K — KEY OPERATED TOGGLE SWITCH
- S_P — TOGGLE SWITCH WITH PILOT LIGHT

BOXES:

- WALL MOUNTED JUNCTION BOX MAXIMUM SIZE 4 11/16" SQUARE X 2 1/8" DEEP
- CEILING MOUNTED JUNCTION BOX MAXIMUM SIZE 4 11/16" SQUARE X 2 1/8" DEEP
- [J] JUNCTION BOX LARGER THAN 4 11/16" SQUARE X 2 1/8" DEEP
- [PB] PULL BOX
- [TBX] TERMINAL BOX

RECEPTACLES:

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE SPLIT WIRED
- GFI DUPLEX GFI RECEPTACLE
- QUADRUPLEX RECEPTACLE
- R RANGE RECEPTACLE
- SINGLE SPECIAL PURPOSE RECEPTACLE
- DUPLEX SPECIAL PURPOSE RECEPTACLE
- SPECIAL PURPOSE DEDICATED RECEPTACLE
- MULTI-OUTLET ASSEMBLY, ARROW LENGTH INDICATES LENGTH OF ASSEMBLY IN INCHES (12)
- C CLOCK HANGER RECEPTACLE
- SINGLE FLOOR RECEPTACLE
- DUPLEX FLOOR RECEPTACLE
- SPECIAL PURPOSE FLOOR RECEPTACLE
- PUBLIC TELEPHONE FLOOR OUTLET
- PRIVATE TELEPHONE FLOOR OUTLET
- [R] RADIO OUTLET
- [TV] TELEVISION OUTLET

SIGNALING DEVICES:

- +1 AMPLIFIER
- +2 MICROPHONE
- +3 INTERIOR SPEAKER
- +4 EXTERIOR SPEAKER
- +5 ANY OTHER ITEM ON SAME SYSTEM
- PUBLIC TELEPHONE OUTLET
- PRIVATE TELEPHONE OUTLET
- [CH] CHIME
- [BT] BELL TRANSFORMER
- CRITICALITY ALARM, MOTOR DRIVEN HOWLER
- EVACUATION ALARM, MOTOR DRIVEN SIREN
- BUZZER
- BELL
- [B] ROTATING BEACON
- [F] FLASHER
- SINGLE STROKE GONG

LIGHTING:

- FLUORESCENT LIGHTING FIXTURE CEILING OR PENDANT MOUNTED
- FLUORESCENT LIGHTING FIXTURE WALL MOUNTED
- FLUORESCENT LIGHTING FIXTURE RECESSED AIR HANDLING TROFFER
- FLUORESCENT LIGHTING FIXTURE WITH INTEGRAL EMERGENCY LIGHTING INVERTER
- INCANDESCENT OR HID LIGHTING FIXTURE CEILING MOUNTED
- INCANDESCENT OR HID LIGHTING FIXTURE WALL MOUNTED
- G INCANDESCENT OR HID LIGHTING FIXTURE WALL MOUNTED: SAFETY SHOWER
- R INCANDESCENT OR HID LIGHTING FIXTURE WALL MOUNTED: FIRE ALARM
- RE INCANDESCENT OR HID LIGHTING FIXTURE WALL MOUNTED: RECESSED EXIT LIGHT
- EXIT LIGHTING FIXTURE, CEILING MOUNTED DIRECTION OF EGRESS NOTED BY ARROW
- EXIT LIGHTING FIXTURE, WALL MOUNTED DIRECTION OF EGRESS NOTED BY ARROW
- STANDBY BATTERY POWER POWERED LIGHT FIXTURE, WALL MOUNTED, NUMBER INDICATES NUMBER OF LAMPS, ARROWS INDICATE BEAM PROJECTION
- PHOTOELECTRIC CELL LIGHTING CONTROL SWITCH, 120 VAC
- EMERGENCY REMOTE FLOODLIGHT WALL MOUNTED
- FLOODLIGHT, WALL MOUNTED
- [LC] LIGHTING CONTACTOR

CABLE:

- AC — ARMORED CABLE
- G — GROUND CONDUCTOR, UGND
- HC — HEAT TRACE CABLE
- MC — METAL CLAD
- MI — MINERAL INSULATED
- TC — TRAY CABLE
- OPEN CABLE CONNECTION TO DEVICE

UTILITIES (AERIAL) LINES:

- A — 230KV, 3PH, 3W CKT
- B — 115KV, 3PH, 3W CKT
- C — 13.8KV, 3 PH, 3W CKT
- E — 2400V, 3PH, 3W CKT
- F — 480V, 3PH, 3W CKT
- F1 — 480/277V, 3PH, 4W CKT
- G — 240/120, 3PH, 4W CKT
- G1 — 120V, 1PH, 2W CKT
- G2 — 240V, 1PH, 2W CKT
- H — 120/240V, 1PH, 3W CKT
- H2 — 240V, 3PH, 3W CKT
- J — 208/120V, 3PH, 4W CKT
- SL — SERIES STREET LIGHTING CKT

OUTSIDE LINES:

- FA — FIRE ALARM CKT
- SIG — SIGNAL CIRCUIT
- DB — DIRECT BURIED CKT
- GND — GROUND, COUNTERPOISE, OR STATIC WIRE

POWER AND CONTROL:

- [T] TRANSFORMER
- SERVICE ENTRANCE FITTING
- UNIT HEATER
- DISTRIBUTION PANELBOARD
- POWER PANELBOARD
- LIGHTING PANELBOARD
- (T) THERMOSTAT
- COMBINATION MOTOR CONTROLLER
- SAFETY SWITCH

CATHODIC PROTECTION:

- VERTICAL PREPACKAGED ANODE
- HORIZONTAL PREPACKAGED ANODE
- TEST STATION
- DEEP PERMANENT REFERENCE ELECTRODE
- ANODE RECTIFIER
- ANODE JUNCTION BOX

OUTSIDE LINES:

- GROUND ROD
- GROUND CONDUCTOR EXOTHERMIC WELD CONNECTION
- GROUND PLATE
- [T] UNDERGROUND DUCT, TELECOMMUNICATIONS
- [I] UNDERGROUND DUCT, INSTRUMENTATION
- [C] UNDERGROUND DUCT, CONTROL
- [FA] UNDERGROUND DUCT, FIRE ALARM
- [P] UNDERGROUND DUCT, POWER
- O R EXISTING STUB POLE FOR GUYING
- O S EXISTING POLE TO BE REMOVED
- STREETLIGHT AND BRACKET
- (F) FLOODLIGHT AND BRACKET
- SIDEWALK GUY AND ANCHOR
- DOWN GUY AND ANCHOR
- SPAN GUY
- PAD MOUNTED TRANSFORMER
- POLE MOUNTED TRANSFORMER
- [M] MANHOLE
- [H] HANDHOLE
- [TP] TRANSFORMER PAD
- [TM] TRANSFORMER MANHOLE OR VAULT

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS						
DWG NO	TITLE	REF NUMBER	TITLE	MFD Init	REV NO	DESCRIPTION	REV BY DATE		ENGR COMPANY	
		NEXT USED ON		REV Init						

LAWRENCE GERARD FOX — STATE OF WASHINGTON — 35278 REGISTERED PROFESSIONAL ENGINEER — 02/06/06
EXPIRES 09/18/05

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO.

INDEX NO.

CH2MHILL

NAME	DATE	COMPANY
DRAWN BY C BENTZ	02/06/06	CH2MHILL
CHKD BY L FOX	02/06/06	CH2MHILL
DESIGN AUTHORITY E GRIGGS	2/9/06	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF ABBREVIATIONS/LEGEND/ GENERAL NOTES

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0000	H-2-830825	A

SCALE NONE | EDT 634144 | SHEET 3 OF

XXXX PLOTID XXXX

DRP_TB_D [12-02].DWG

ELEMENTARY AND ONE LINE DIAGRAMS:

- LIGHTNING ARRESTOR
- VDC — MULTICELL BATTERY
- VDC — SINGLE CELL BATTERY OR DC SOURCE
- AF / AT — CIRCUIT BREAKER
- AF / AT — THREE POLE CIRCUIT BREAKER
- SOV — OPERATING COIL, SOLENOID OPERATED VALVE
- K — OPERATING COIL, RELAY OR LIGHTING CONTACTOR
- M — OPERATING COIL, MOTOR CONTACTOR
- KVAR — CAPACITOR
- N — NORMALLY OPEN CONTACT ABOVE SYMBOL: K OR M BELOW SYMBOL: TDC OR TDPU (DE-ENERGIZED STATE) N=CONTACT NUMBER
- N — NORMALLY CLOSED CONTACT ABOVE SYMBOL: K OR M BELOW SYMBOL: TDO OR TDDO (DE-ENERGIZED STATE) N=CONTACT NUMBER
- FLOODLIGHT
- DIRECT CONNECTION GROUND TO EARTH OR STRUCTURE
- CHASSIS GROUND
- DIODE
- ZENER DIODE
- DC / AC — FULL WAVE BRIDGE RECTIFIER
- AFU / CL — FUSE ABOVE SYMBOL: FUSE SIZE (AMPS) BELOW SYMBOL: FUSE CLASS
- N — MOTOR STARTER N=NEMA SIZE
- PUSH BUTTON CONTROL STATION
- SELECTOR SWITCH CONTROL STATION
- CIRCUIT BREAKER, HIGH VOLTAGE. NORMALLY CLOSED
- CIRCUIT BREAKER, HIGH VOLTAGE. NORMALLY OPEN
- + / T / − — THERMOCOUPLE OR RTD T=TYPE
- A — DISCONNECT LINK RATING=AMPS
- OVERLOAD RELAY (49)
- RISER POLE PRIMARY CONDUCTOR TERMINATIONS

- R — RECTIFIER
- AS — AMMETER SWITCH
- VS — VOLTMETER SWITCH
- LAM — LIMIT ALARM MODULE
- SS — SELECTOR SWITCH
- TS — TEST SWITCH
- PS — PRESSURE SWITCH
- CAS — CURRENT ALARM SWITCH
- GFCI — GROUND FAULT CIRCUIT INTERRUPTER
- GFPE — GROUND FAULT PROTECTION EQUIPMENT
- GFR — GROUND FAULT RELAY WITH CURRENT SENSOR (RATIO)
- AM — AMMETER
- VM — VOLTMETER
- FM — FREQUENCY METER
- WM — WATTMETER
- WHM — WATTHOUR METER
- ANN — ANNUNCIATOR WINDOW
- HM — HOUR METER
- ALT — ALTERNATOR
- PE — PHOTOELECTRIC CELL
- MR — METER RELAY
- M — MOTOR BELOW SYMBOL: HP
- A — AMBER INDICATING LIGHT
- B — BLUE INDICATING LIGHT
- R — RED INDICATING LIGHT
- G — GREEN INDICATING LIGHT
- W — WHITE INDICATING LIGHT
- NE — NEON INDICATING LIGHT
- C — CLEAR INDICATING LIGHT

- TDC — OPEN SWITCH WITH TIME DELAY CLOSING
- TDO — CLOSED SWITCH WITH TIME DELAY OPENING
- ILLUMINATED PUSH BUTTON SWITCH
- MUSHROOM HEAD PUSH BUTTON SWITCH, NORMALLY CLOSED
- MOMENTARY PUSH BUTTON SWITCH, NORMALLY OPEN
- MOMENTARY PUSH BUTTON SWITCH, NORMALLY CLOSED
- TWO CIRCUIT PUSH BUTTON SWITCH
- TWO POSTION SELECTOR SWITCH
- SPOT TRANSFER SWITCH
- SPST CLOSED SWITCH
- SPST OPEN SWITCH
- FLOW SWITCH CLOSES ON INCREASED FLOW
- FLOW SWITCH OPENS ON INCREASED FLOW
- LIQUID LEVEL SWITCH CLOSES ON RISING LEVEL
- LIQUID LEVEL SWITCH OPENS ON RISING LEVEL
- PRESSURE/VACUUM SWITCH CLOSES ON RISING PRESSURE
- PRESSURE/VACUUM SWITCH OPENS IN RISING PRESSURE
- TEMPERATURE ACTUATED SWITCH CLOSES ON RISING TEMPERATURE
- TEMPERATURE ACTUATED SWITCH OPENS ON RISING TEMPERATURE
- VIBRATION SWITCH, NORMALLY CLOSED
- CLOSED SWITCH WITH TIME DELAY OPENING
- OPEN SWITCH WITH TIME DELAY CLOSING
- AS — NONFUSIBLE DISCONNECT (SAFETY) SWITCH
- AS / AFU — FUSIBLE DISCONNECT (SAFETY SWITCH)
- ISOLATING HIGH VOLTAGE FUSE-SWITCH
- POLE MOUNTED ISOLATING HIGH VOLTAGE FUSE SWITCH

- V1 V2 — REGULATING POWER TRANSFORMER V1=PRIMARY VOLTAGE V2=SECONDARY VOLTAGE
- AF / AT / N — MOTOR CONTROLLER CIRCUIT BREAKER COMBINATION DRAWOUT TYPE N=NEMA CONTACTOR SIZE
- AS / AFU / N — MOTOR CONTROLLER FUSED DISCONNECT COMBINATION DRAWOUT TYPE N=NEMA CONTACTOR SIZE
- AF / AT / N / N — MOTOR CONTROLLER PRIMARY REDUCED VOLTAGE COMBINATION N=NEMA CONTACTOR SIZE
- AF / AT / F R N N — MOTOR CONTROLLER FULL VOLTAGE REVERSING OR 2-SPEED COMBINATION F,R=FORWARD/REVERSE (USE 1,2 FOR 2-SPEED) N=NEMA CONTACTOR SIZE
- AFU / V1 V2 / AFU — MOTOR CONTROLLER, CONTROL TRANSFORMER AND CONTROL STATION V1=PRIMARY VOLTAGE V2=SECONDARY VOLTAGE
- K — PROGRAMMABLE SOLID-STATE ELECTRONIC OVERLOAD RELAY

- N:M / X — CURRENT TRANSFORMER N=PRIMARY CURRENT M=SECONDARY CURRENT X=NO. OF CT'S
- V1 V2 / X — POTENTIAL TRANSFORMER V1=PRIMARY VOLTAGE V2=SECONDARY VOLTAGE X=NO. OF PT'S
- X XFMR V1 V2 KVA,PH,Hz — TRANSFORMER V1=PRIMARY VOLTAGE V2=SECONDARY VOLTAGE X=CONFIG WINDING
- GENERATOR KVA, PF, V, PH, Hz
- AF / AT — DRAWOUT CIRCUIT BREAKER
- TRANSFORMER WINDINGS CONFIG DELTA – WYE, GROUNDED NEUTRAL
- TRANSFORMER WINDINGS CONFIG DELTA – DELTA SHOW GROUNDED PHASE, IF APPLICABLE
- TRANSFORMER WINDINGS CONFIG WYE, GROUNDED NEUTRAL – DELTA
- FIXED VALUE ELECTRICAL RESISTANCE ABOVE SYMBOL: R OR HTR (Ω OR KW)
- VARIABLE VALUE ELECTRICAL RESISTANCE (RANGE, NOMINALLY SET AT)
- SHUNT
- PHOTOELECTRIC CELL
- DISCONNECTED WIRE TAPED AND COILED IN ENCLOSURE
- CABLE SHIELD (UNGROUNDED)
- CABLE SHIELD (GROUNDED)
- TWISTED PAIR SHIELD
- 242-A MCS DISCRETE INPUT

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

02/06/04 LAWRENCE GERARD 35278 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON

EXPIRES 09/18/05

CH2MHILL

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS						
DWG NO	TITLE	REF NUMBER	TITLE	MFD REV NO	REV NO	DESCRIPTION	REV BY DATE		ENGR COMPANY
		NEXT USED ON		REV NO					

NAME	DATE	COMPANY
DRAWN BY S. BENTZ	2/9/04	CH2MHILL
CHK'D APPROVED L. FOX	2/9/04	CH2MHILL
DESIGN AUTHORITY E. CRIZER	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF ABBREVIATIONS/LEGEND/ GENERAL NOTES

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0000	H-2-830825	A

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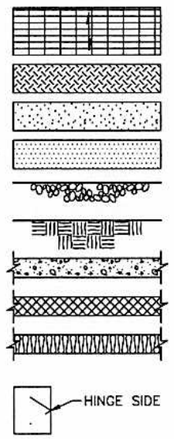
ORP_TB_D [12-02].DWG

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSITITUTION
AL	ALUMINUM
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN STANDARDS TESTING ON MATERIALS
BOT, B	BOTTOM
CJ	CONSTRUCTION JOINT
CJP	CONSTRUCTION PENETRATION JOINT
CLR	CLEARANCE
CONC	CONCRETE
CONT	CONTINUOUS
CTR	CENTER
CTRD	CENTERED
DIAG	DIAGONAL
DWGS	DRAWINGS
EA	EACH
EF	EACH FACE
EQ	EQUAL
EMBED	EMBEDDED
EW	EACH WAY
EXT	EXTENSION
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
HSS	HOLLOWED STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATING VENTILATING AIR CONDITIONING
IN	INCHES
INV	INVERT
L	ANGLE
MANUF	MANUFACTURER
MB	MACHINE BOLT
MPH	MILES PER HOUR
NOM	NOMINAL
NS	NON-SHRINK
OC	ON CENTER
OPNG	OPENING
OPNGS	OPENINGS
PJF	PREMOLDED JONT FILLER
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REINF	REINFORCEMENT
RST	REINFORCING STEEL
STD	STANDARD
STUCT	STRUCTURAL
T	TOP
THK	THICK
TOC	TOP OF CURB
TOS	TOP OF STAB
U/S	UNDER SURFACE
WS	WATERSTOP

ARCH/STRUCT MATERIAL SYMBOLS



GRATING, SPAN DIRECTION INDICATED

CHECKERED PLATE

GROUT

STRUCTURAL FILL

GRANULAR FILL

UNDISTURBED EARTH OR FINISH GRADE

CONCRETE

RIGID INSULATION

BATT INSULATION

DOOR/HATCH SWING

GENERAL ARCHITECTURAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
3. LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
4. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
5. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OR DRAWINGS FOR ADDITIONAL NOTES.
6. VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

SHINJI GOTO STATE OF WASHINGTON 13654 REGISTERED PROFESSIONAL ENGINEER
02/06/04
EXPIRES 7/27/04

CH2MHILL

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS			
DWG NO	TITLE	REF NUMBER	TITLE	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
		NEXT USED ON					

NAME	DATE	COMPANY
DRAWN BY C BENTZ	2/19/04	CH2MHill
DSTG APPROVED S. GOTO	2/19/04	CH2MHill
DESIGN AUTHORITY E GROSS	2/19/04	CH2MHill

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF ABBREVIATIONS/LEGEND/ GENERAL NOTES

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0000	H-2-830825	A

SCALE NONE | EDT 634144 | SHEET 5 OF

XXXX PLOTID XXXX | ORP_TB_D [12-02].DWG

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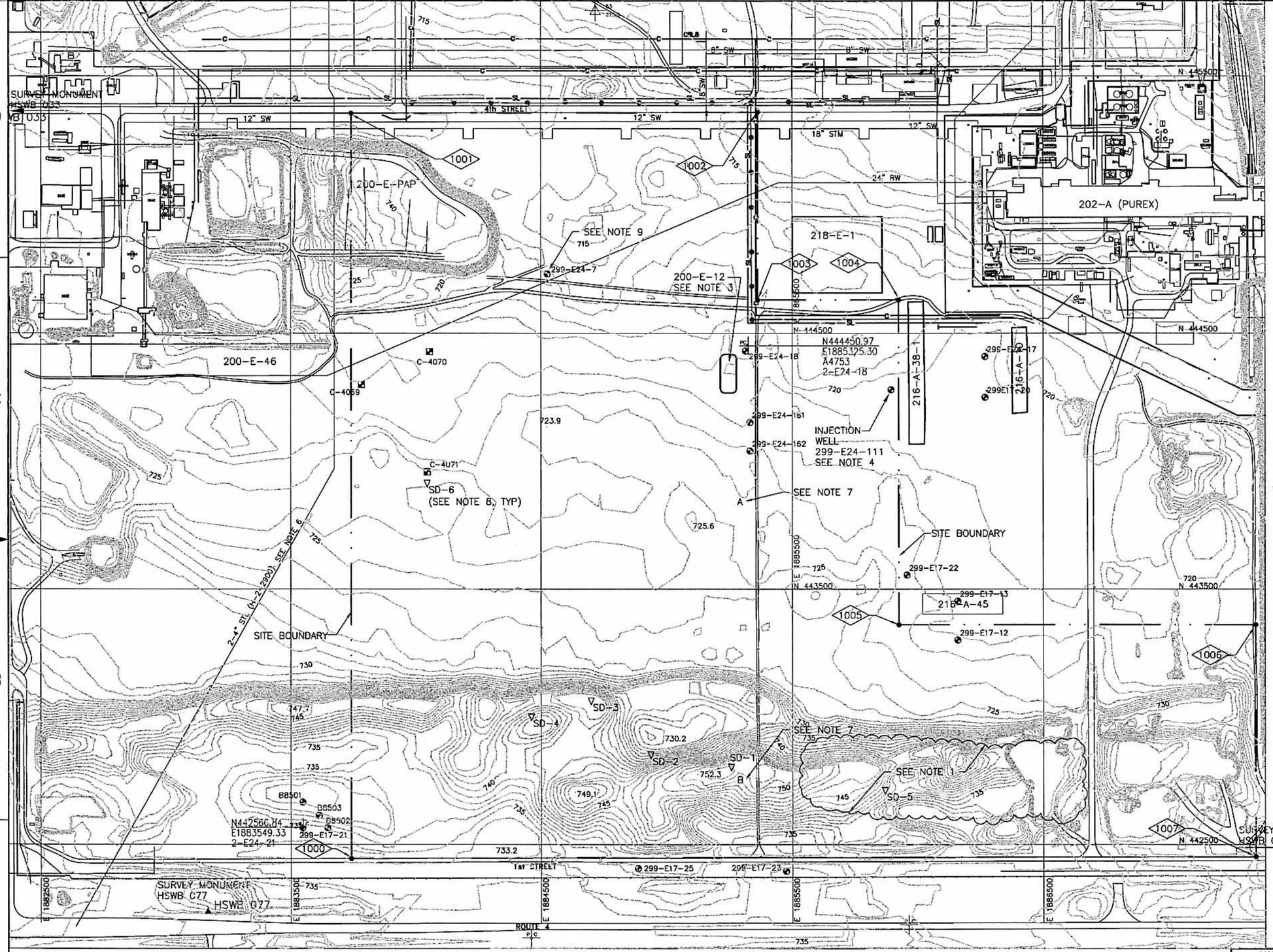


NOTES

1. ACTIVE BORROW PIT AREA FOR OTHER HANFORD SITE PROJECTS. FIELD VERIFY THE LIMITS OF EXISTING BORROW EXCAVATION. CONTRACTOR TO CONFIRM WITH CONSTRUCTION MANAGER BORROW PIT STATUS PRIOR TO BEGINNING IDF CONSTRUCTION.
2. SEE DRAWING NO. H-2-830825 SHEET 1 OF 4 FOR SITE BOUNDARY, SURVEY MONUMENT AND GENERAL NOTES INFORMATION.
3. HANFORD WIDS SITE CODE 200-E-12. SITE BELIEVED TO BE USED FOR SEASONAL SOIL INFILTRATION TESTS, USING WATER. NOT CONSIDERED A WASTE SITE. MISCELLANEOUS SMALL EQUIPMENT AND DEBRIS WAS LEFT AT THE SITE. CONSTRUCTION MANAGER WILL RESOLVE THE FINAL DISPOSITION OF THIS MATERIAL PRIOR TO CONSTRUCTION OF IDF.
4. INJECTION WELL 299-E24-111 WITH 32 OBSERVATION WELLS. THIS EXPERIMENTAL WELL WAS USED FOR STUDY OF RADIONUCLIDE MOVEMENT IN SOIL. THIS WELL DID NOT RECEIVE ANY WASTE FROM NEARBY FACILITIES. CONTRACTOR SHALL PROTECT WELL FACILITIES FROM DAMAGE DURING IDF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ACCESS TO WELLS AS REQUIRED BY OWNER.
5. LOCATE, PRESERVE, AND PROTECT EXISTING FACILITIES ADJACENT TO AND WITHIN PROJECT SITE BOUNDARY.
6. EXISTING TRANSFER PIPE POSTED AS UNDERGROUND RADIOACTIVE MATERIAL AREA.
7. EXISTING PLAINS (A) AND DUNE (B) GROUNDWATER STUDIES SITES.
8. SD-X ARE APPROXIMATE LOCATIONS OF SURFACE PIT SAMPLING AT DEPTHS OF 2 TO 3 FEET (JAN 2003).
9. EXISTING DECOMMISSIONED WELL CAPPED APPROXIMATELY 3 FT BELOW GRADE. PROTECT AND DO NOT DISTRUB CAP.
10.

SITE BOUNDARY CONTROL		
POINT NO.	EASTING	NORTHING
1000	1883742.56	442444.64
1001	1883742.61	445355.29
1002	1885363.65	445358.86
1003	1885363.64	444629.71
1004	1885923.49	444629.70
1005	1885923.53	443360.15
1006	1887345.21	443360.21
1007	1887344.97	442452.51

SEE DRAWING NUMBER H-2-830825 SHT 1 FOR VERTICAL DATUM INFORMATION.

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

JOHN N. WINTERS STATE OF WASHINGTON 30601 REGISTERED PROFESSIONAL ENGINEER 2/9/04
EXPIRES 04/04/04

CH2MHILL

0 200 400 600
1"=200'

N

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS			
DWG NO	TITLE	REF NUMBER	TITLE	MFD REV NO / REV Ref	DESCRIPTION	REV BY / DATE	ENGR / COMPANY
		NEXT USED ON					

NAME	DATE	COMPANY
DRAWN BY G ALMSTROM	2/9/04	CH2MHILL
DWG APPROVED J WINTERS	2/9/04	CH2MHILL
DESIGN AUTHORITY E GRIGG	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

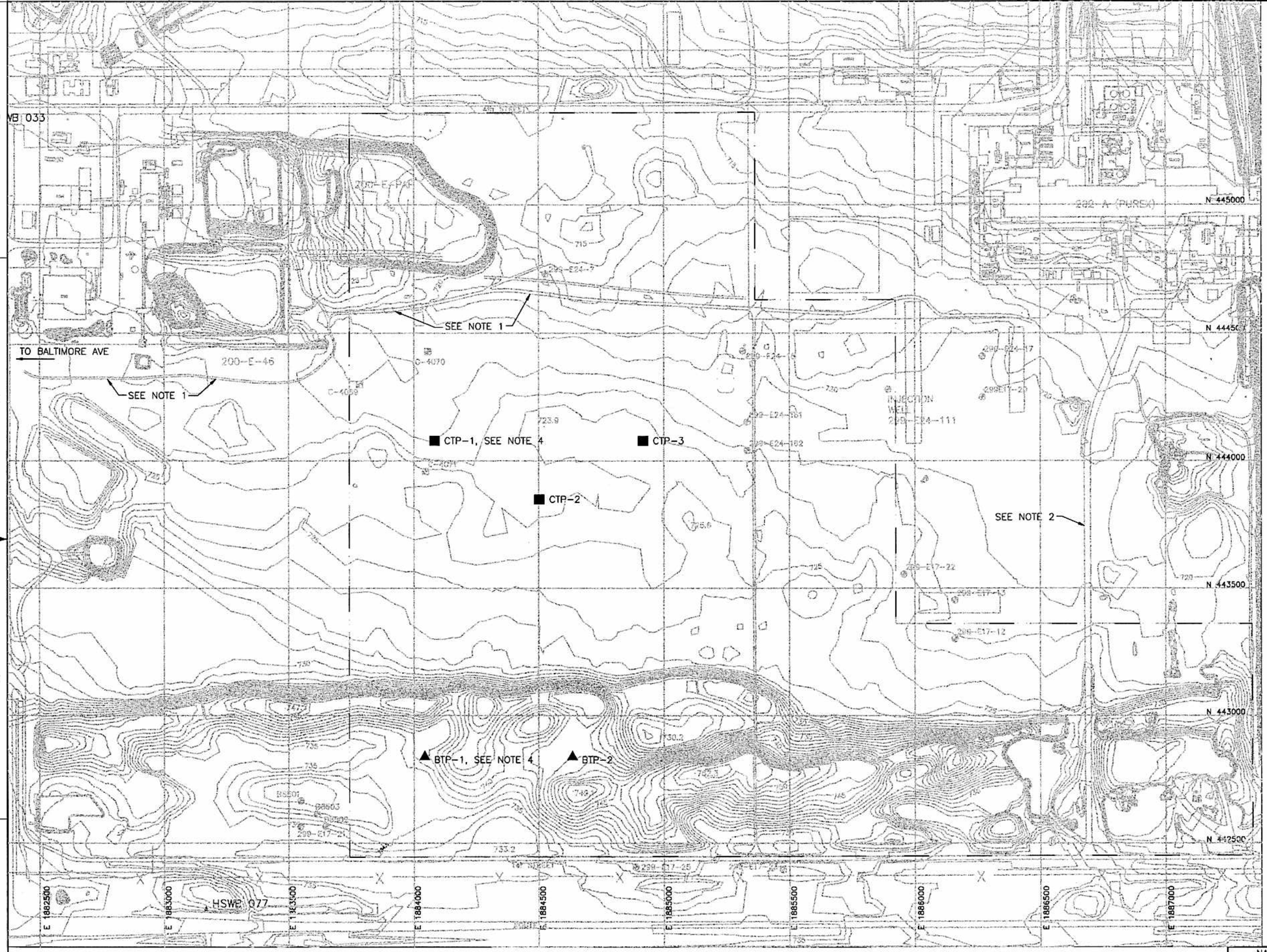
TITLE
IDF
EXISTING CONDITIONS
SITE PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-830826	A

SCALE 1'=200' EDT 634144 SHEET 1 OF 1

XXXX PLOTID XXXX

ORP_TB_D [12-02].DWG



NOTES:

1. CONTRACTOR SHALL USE EXISTING ROADS FOR CONSTRUCTION ACCESS TO SCHEDULE A WORK FROM BALTIMORE AVE. CONTRACTOR TO SUBMIT DETAILED ACCESS PLAN.
2. MAINTAIN ACCESS AND DO NOT BLOCK ROAD TO PUREX FACILITY, TYPICAL FULL LENGTH.
3. CLEAR, GRUB AND STRIP ONLY THE MINIMUM AREAS NECESSARY. THESE AREAS SHOULD NOT EXTEND MORE THAN 10' BEYOND CATCHLINES FOR STOCKPILES, BORROW AREAS, ROADS, EXCAVATIONS, AND FILLS.
4. TEST PIT LOCATIONS ARE APPROXIMATE AND WILL BE FINALIZED IN THE FIELD BY CONSTRUCTION MANAGER. COMPLETE TEST PIT EXCAVATION AND BACKFILL AS DESCRIBED IN DIVISION 1 AND AS DIRECTED BY CONSTRUCTION MANAGER.

TEST PIT CONTROL POINT TABLE

TEST PIT NO.	EASTING	NORTHING
BTP-1	1884043.0	442839.0
BTP-2	1884634.0	442839.0
CTP-1	1884085.0	444078.5
CTP-2	1884503.5	443848.0
CTP-3	1884917.0	444078.5

LEGEND

■ CTP — CELL TEST PIT EXCAVATION (MAX. DEPTH 20 FT)

▲ BTP — BORROW AREA TEST PIT EXCAVATION (MAX. DEPTH 12 FT)

0 200 400 600
1"=200'

N

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV Ref	REVISIONS			

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

JOHN N. WINTERS — STATE OF WASHINGTON — 30601 — REGISTERED PROFESSIONAL ENGINEER — 2/9/04
EXPIRES 04/04/04

CH2MHILL

NAME	DATE	COMPANY
DRAWN BY C BENTZ	2/9/04	CH2MHILL
DSTG APPROVED J WINTERS	2/9/04	CH2MHILL
DESIGN AUTHORITY E GROSS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
SITE AND ACCESS PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-831130	A

SCALE 1'=200' EDT 634144 SHEET 1 OF 1

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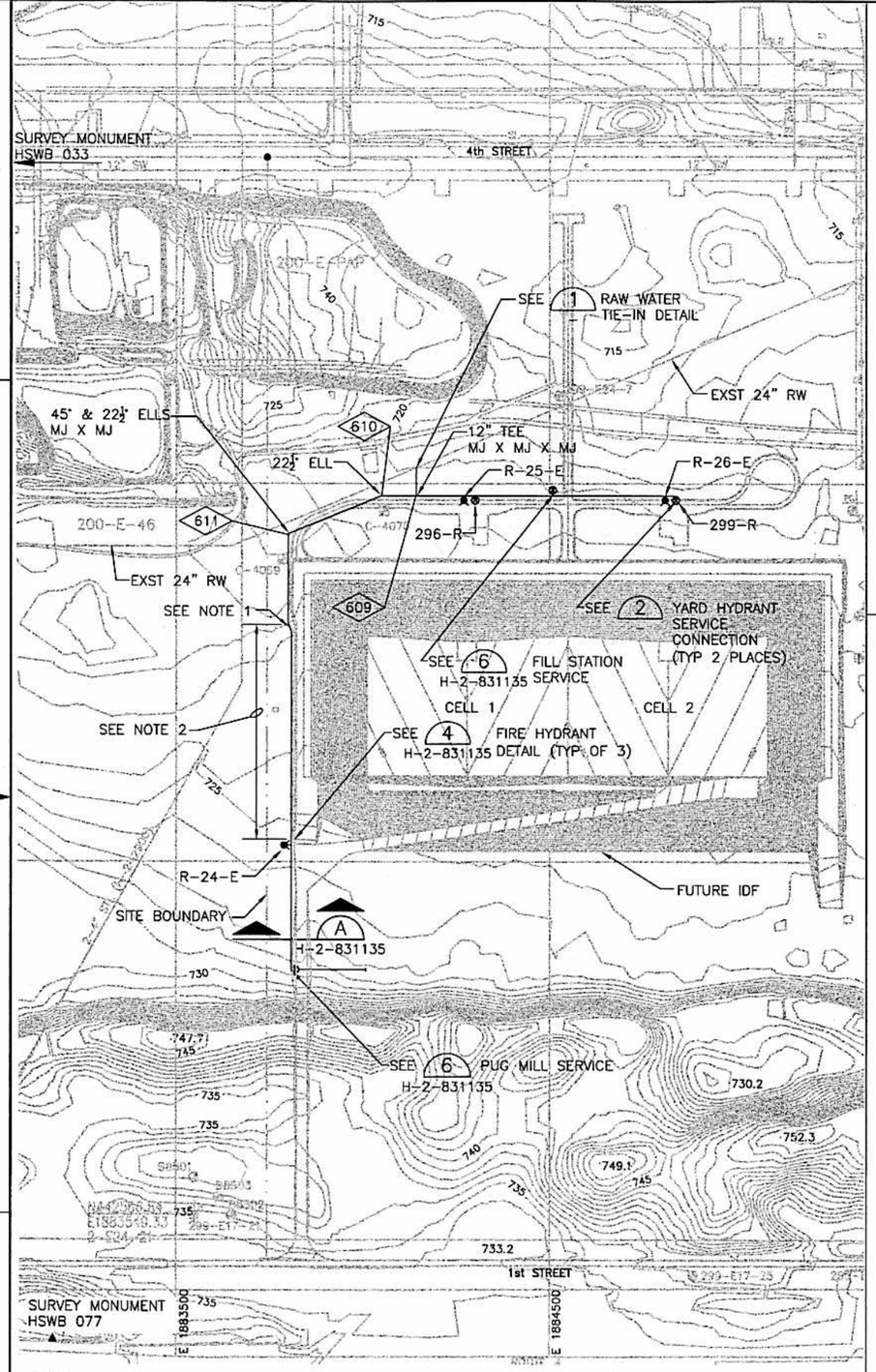
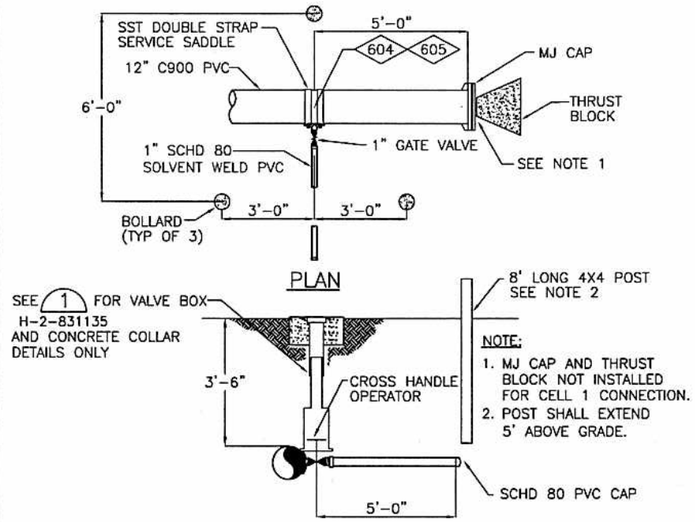


NOTE

1. BEND PIPE IN ACCORDANCE WITH MANUFACTURE'S REQUIREMENTS TO MAINTAIN EAST/WEST ALIGNMENT OFFSET.
2. MAINTAIN AN APPROXIMATE 0% SLOPE WITHIN THIS LENGTH OF PIPING AS NEEDED TO PROVIDE MINIMUM 6" OF CLEARANCE UNDER 18" DIA CULVERT DRAINING INTO WEST INFILTRATION AREA. SEE DRAWING H-2-831130 THROUGH H-2-831133 FOR ADDITIONAL CULVERT DETAILS.

0 200 400 600
1"=200'



YARD HYDRANT SERVICE CONNECTION 2
NTS

LEGEND

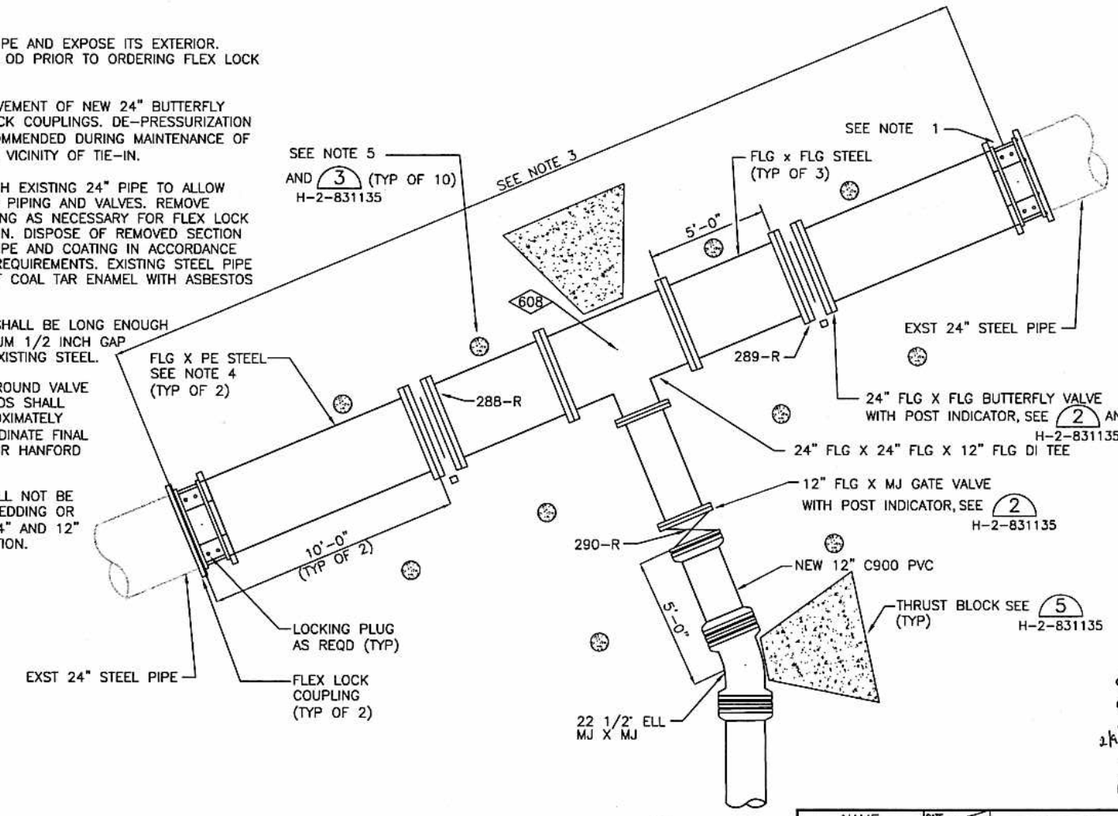
- FIRE HYDRANT
- YARD HYDRANT ISOLATION VALVE
- PUG MILL/FILL STATION ISOLATION VALVE

RAW WATER PIPING CONTROL

POINT NO.	EASTING	NORTHING	DESCRIPTION	ASSOCIATED VALVE NO.
601	E 1884270.99	N 444468.00	MJ REDUCING TEE FOR FH# R-25-E (CELL 1)	292-R
602	E 1884810.96	N 444468.00	MJ REDUCING TEE FOR FH# R-26-E (CELL 2)	293-R
603	E 1883807.73	N 443544.17	MJ REDUCING TEE FOR FH# R-24-E (WEST ACCESS RD)	291-R
604	E 1884301.00	N 444468.00	SERVICE SADDLE FOR 296-R (CELL 1)	297-R, 298-R
605	E 1884839.96	N 444468.00	SERVICE SADDLE FOR 299-R (CELL 2)	300-R, 301-R
606	E 1884508.45	N 444468.00	FILL STATION	294-R, 295-R
607	E 1883807.73	N 443214.50	PUG MILL	302-R, 303-R
608	E 1884142.99	N 444541.42	RAW WATER TIE-IN	288-R, 289-R, 290-R
609	E 1884142.99	N 444468.00	RAW WATER 12" TEE	–
610	E 1884049.92	N 444468.00	RAW WATER 22.5° (NORTH)	–
611	E 1883799.81	N 444364.81	RAW WATER 67.5° (SOUTH)	–

NOTES:

1. EXCAVATE EXISTING PIPE AND EXPOSE ITS EXTERIOR. VERIFY EXISTING PIPE OD PRIOR TO ORDERING FLEX LOCK COUPLINGS.
2. TIE-IN MINIMIZES MOVEMENT OF NEW 24" BUTTERFLY VALVES AND FLEX LOCK COUPLINGS. DE-PRESSURIZATION OF 24" PIPE IS RECOMMENDED DURING MAINTENANCE OF EXISTING 24" PIPE IN VICINITY OF TIE-IN.
3. REMOVE ONLY ENOUGH EXISTING 24" PIPE TO ALLOW INSTALLATION OF NEW PIPING AND VALVES. REMOVE EXISTING STEEL COATING AS NECESSARY FOR FLEX LOCK COUPLING INSTALLATION. DISPOSE OF REMOVED SECTION OF EXISTING STEEL PIPE AND COATING IN ACCORDANCE WITH HANFORD SITE REQUIREMENTS. EXISTING STEEL PIPE COATING CONSISTS OF COAL TAR ENAMEL WITH ASBESTOS FELT WRAPPER.
4. LENGTH OF FLGxPE SHALL BE LONG ENOUGH TO PROVIDE A MAXIMUM 1/2 INCH GAP BETWEEN NEW AND EXISTING STEEL.
5. INSTALL BOLLARDS AROUND VALVE OPERATORS. BOLLARDS SHALL BE SPACED AT APPROXIMATELY 6' ON CENTER. COORDINATE FINAL LOCATIONS WITH FLUOR HANFORD UTILITIES.
6. NATIVE MATERIAL SHALL NOT BE ALLOWED FOR PIPE BEDDING OR IN PIPE ZONE FOR 24" AND 12" PIPE AT TIE-IN LOCATION.



RAW WATER TIE-IN DETAIL 1
NTS

LEONARD JOHN THOMAS STATE OF WASHINGTON 38907 REGISTERED PROFESSIONAL ENGINEER
2/4/04
EXPIRES 8/4/05

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO.

INDEX NO.

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFD REV Rel	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

NAME	DATE	COMPANY
DRAWN BY C. BEHTZ	2/3/04	ENGINEER
DES APPROVED E. THOMAS	2/4/04	CH2MHILL
DESIGN AUTHORITY E. GROS	2/19/04	CH2MHILL

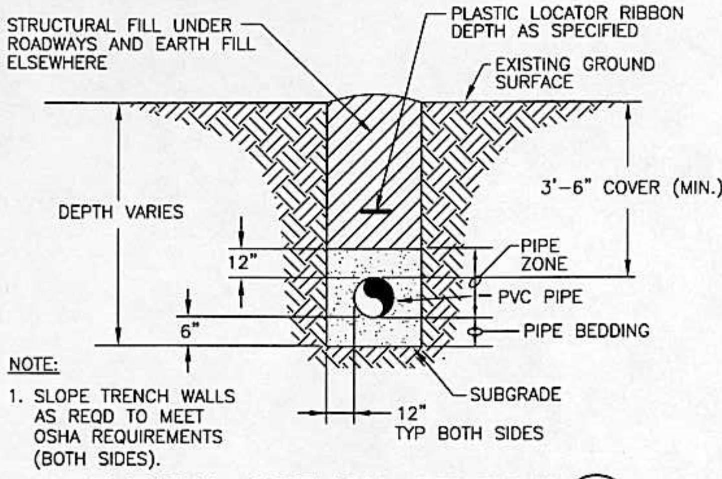
U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
RAW WATER TIE-IN
SITE PLAN AND DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-831134	A

SCALE AS SHOWN EDT 634144 SHEET 1 OF 1

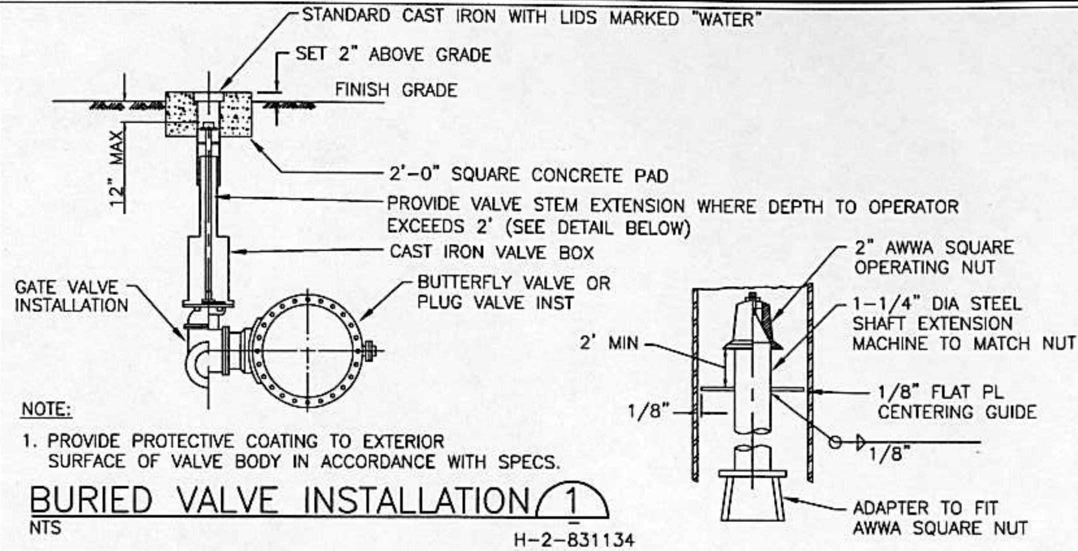
XXXX PLOTID XXXX ORP_TIB_D [12-02].DWG



NOTE:

1. SLOPE TRENCH WALLS AS REQD TO MEET OSHA REQUIREMENTS (BOTH SIDES).

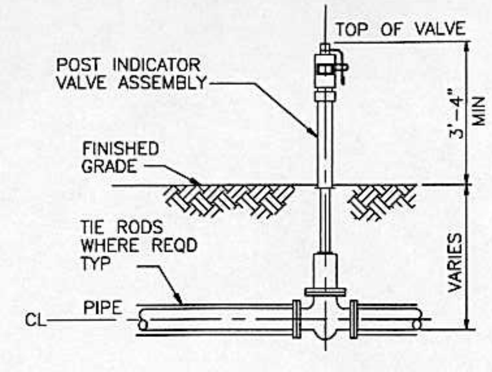
TYPICAL TRENCH SECTION (A)
NTS H-2-831134



NOTE:

1. PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY IN ACCORDANCE WITH SPECS.

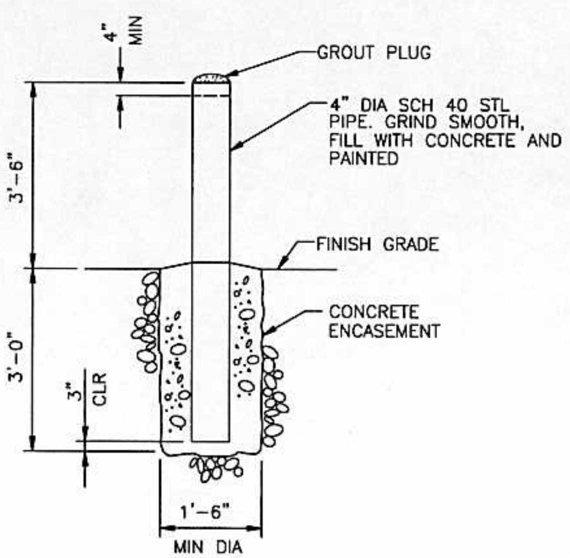
BURIED VALVE INSTALLATION (1)
NTS H-2-831134



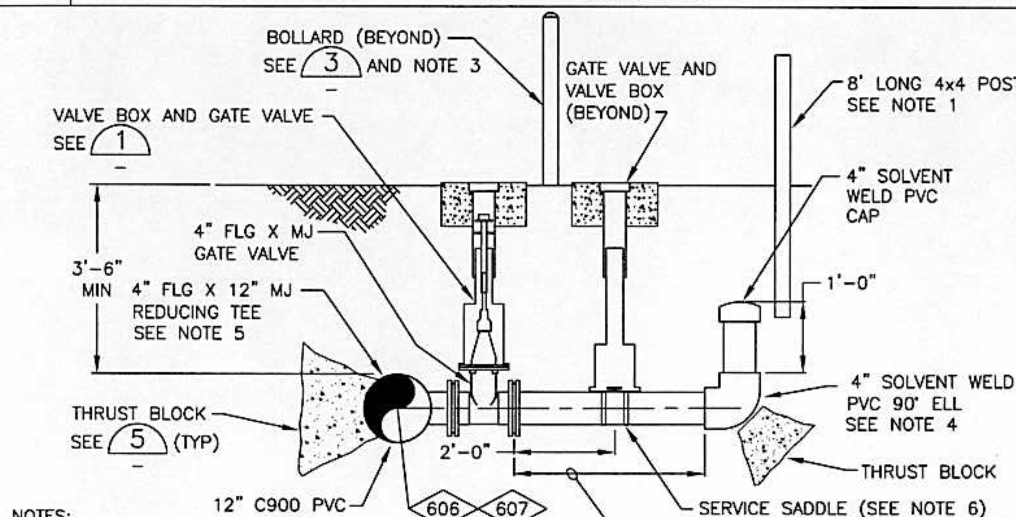
POST INDICATOR VALVE DETAIL (2)
NTS H-2-831134

NOTE

1. SEE DRAWING H-2-831134 FOR RAW WATER PIPING CONTROL TABLE.



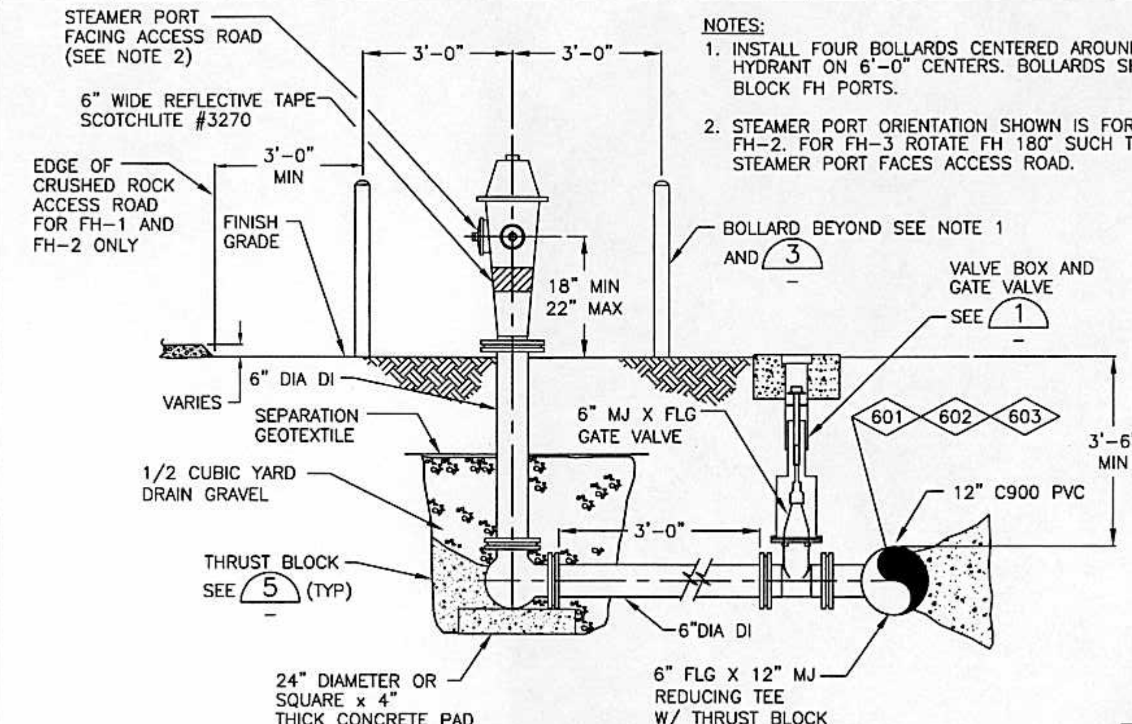
BOLLARD (3)
NTS H-2-831134



NOTES:

1. POST SHALL EXTEND 5 FEET ABOVE GRADE.
2. INSTALL 200 FT OF 4" C900 PVC FOR PUG MILL SERVICE. INSTALL 10 FT OF 4" C900 PVC FOR FILL STATION SERVICE.
3. INSTALL 2 BOLLARDS, EACH BOLLARD SHALL BE 3'-0" FROM VALVE AND PARALLEL WITH 12" PVC.
4. AT 90° ELL, INSTALL FITTINGS NECESSARY TO TRANSITION FROM C900 PVC TO 4" SOLVENT WELD PVC.
5. FOR PUG MILL SERVICE INSTALL 12" MJ CAP AND THRUST BLOCK 5'-0" SOUTH OF REDUCING TEE.
6. INSTALL 1" GATE VALVE WITH CROSS HANDLE OPERATOR, 1" DIA X 12" LONG GSP AND 2 CUBIC FEET OF DRAIN GRAVEL (NOT SHOWN FOR CLARITY).

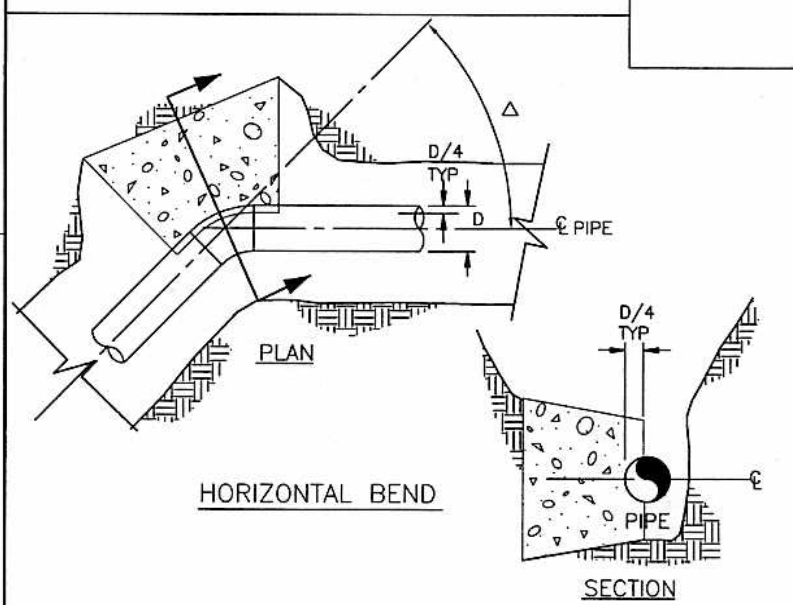
FILL STATION/PUG MILL SERVICE (6)
NTS H-2-831134



NOTES:

1. INSTALL FOUR BOLLARDS CENTERED AROUND FIRE HYDRANT ON 6'-0" CENTERS. BOLLARDS SHALL NOT BLOCK FH PORTS.
2. STEAMER PORT ORIENTATION SHOWN IS FOR FH-1 AND FH-2. FOR FH-3 ROTATE FH 180° SUCH THAT STEAMER PORT FACES ACCESS ROAD.

HYDRANT DETAIL (4)
NTS H-2-831134



TYPICAL THRUST BLOCK DETAILS (5)
NTS H-2-831134

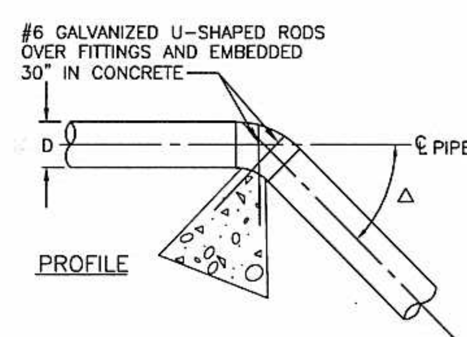
BEARING AREA OF THRUST BLOCKS IN SQUARE FEET HORIZONTAL BENDS

D PIPE SIZE INCHES	TEST PRESSURE PSI	Δ 90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR CAP
4"	173	2.9	1.6	1.0	1.0	2.1
6"	173	6.1	3.3	1.7	1.0	4.3
12"	173	22.2	12.0	6.1	3.1	15.7

VOLUME OF THRUST BLOCK IN CUBIC YARDS VERTICAL BENDS

D PIPE SIZE INCHES	Δ 90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	1.9	1.8	1.8	1.8
6"	3.9	2.1	1.8	1.8
12"	14.4	7.8	4.0	2.0

THRUST BLOCK SCHEDULE



VERTICAL BEND

NOTES:

1. THRUST BLOCKS SHALL BE POURED AGAINST EXCAVATED SOILS, AND ANY LOOSE SOILS OVEREXCAVATED AND REPLACED WITH ADDITIONAL CONCRETE MASS.
2. THRUST BLOCKS REQUIRED AT ALL BENDS, TEES, CAPS, AND HYDRANTS.
3. WHERE THRUST BLOCKS CANNOT BE FOUNDED AGAINST UNDISTURBED MATERIALS, BACKFILL AROUND THRUST BLOCKS SHALL BE BEDDING MATERIAL COMPACTED TO 95% PER ASTM 1557.
4. TOP OF THRUST BLOCKS SHALL HAVE MINIMUM 3'-0" OF COVER.

EDWARD JOHN THOMAS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 38907, 2/9/04, EXPIRES 8/4/05

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD / REV Rel	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

CH2MHILL

NAME	DATE	COMPANY
DRAWN BY A KRONER T. Kroner	2/9/04	CH2MHILL
DFTG APPROVED E THOMAS E. Thomas	2/9/04	CH2MHILL
DESIGN AUTHORITY E GIROIS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF RAW WATER TIE-IN DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	8500	H-2-831135	A

SCALE N.T.S. EDT 634144 SHEET 1 OF 1

XXXX PLOTID XXXX ORP_TB_D [12-02].DWG

336.4 ACSR (EXST)
C8-L8

4/0 ACSR EXST (13.8KV)
C8-L6

STREET LIGHTING

EXST POWER POLE E785 (45" CLASS 4)

N 445535.48
E 1884582.11

EXST POWER POLE E786 (40' CLASS 4)

EXST POWER E803

SEE NOTE 4

N 445276.36
E 1884582.10

SEE NOTE 1

FOR THIS AERIAL SERVICE AREA SEE DWG H-2-831138 SHT 2

N 445020.85
E 1884582.10

SEE NOTE 5

N 444765.33
E 1884582.10

IDF OIL FILLED PAD MOUNT SERVICE TRANSFORMER

N 444506.52
E 1884582.21

27 H-2-831140 SHT 3

28 H-2-831140 SHT 3

FUTURE ACCESS ROAD, TYP

FUTURE CELL NO. 1 CREST PAD BUILDING 219A

FUTURE CELL NO. 2 CREST PAD BUILDING 219E

FOR POWER PLAN TO FUTURE LEACHATE HANDLING FACILITIES SEE DWG H-2-830858, SH1

BALTIMORE AVE.

4th STREET

12" SW

8" SW

200-E-PAP

200-E-46

SWBT033

NOTES

1. COORDINATE ALL PRIMARY SERVICE WORK WITH CONSTRUCTION MANAGER, WHO IN TURN WILL CONTACT FLOUR HANFORD ELECTRICAL UTILITY (FH EU).
2. FOR GENERAL NOTES AND LEGEND SEE DWG H-2-830825. SHT 3.
3. EQUIPMENT DESIGN AND INSTALLATION SHALL COMPLY WITH NESC AND NFPA-70 (NEC).
4. EXST ABOVE GROUND STEAM PIPELINE.
5. EXST 24" DIA RW PIPELINE.

0 100 200 400
1"=100'

N

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.

02/06/04
LAWRENCE GERARD COX
STATE OF WASHINGTON
35278
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 09/18/05

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

CH2MHILL

DRAWING TRACEABILITY LIST			REFERENCES			REVISIONS				
DWG NO	TITLE	REF NUMBER	TITLE	MFD	REV NO	DESCRIPTION	REV BY DATE		ENGR	COMPANY
		NEXT USED ON		REV Ref						

NAME	DATE	COMPANY
DRAWN BY L. WAGNER	2/6/04	CH2M HILL
DSN APPROVED L. FOX	2/6/04	CH2M HILL
DESIGN AUTHORITY E. CRIGG	2/6/04	CH2M HILL

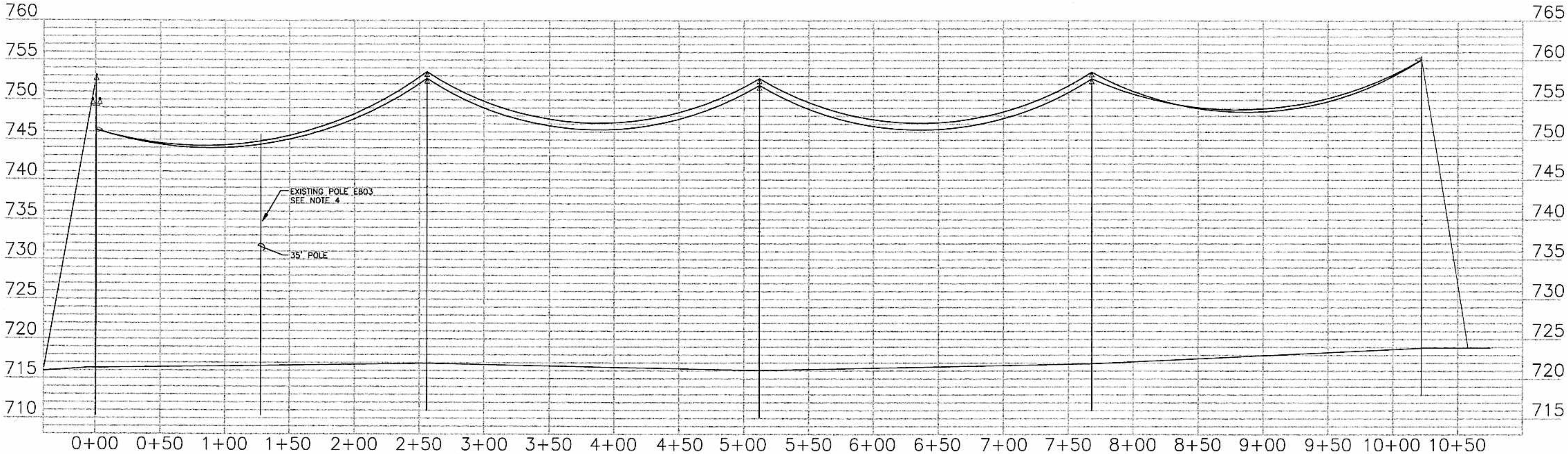
U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ELECTRICAL PRIMARY SERVICE
SITE PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-831138	A

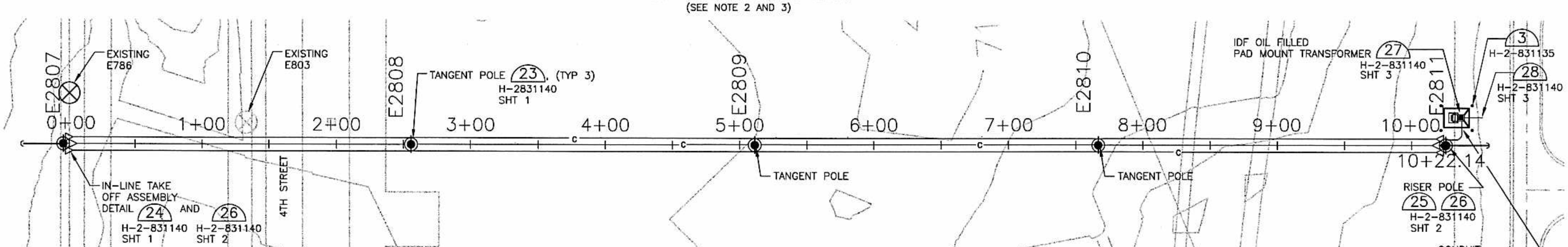
SCALE 1'=100' EDT 634144 SHEET 1 OF 2

ORP_TB_D [12-02].DWG



POLE LINE PROFILE

SCALE: 1"=40' HORIZONTAL, 1"=5' VERTICAL
(SEE NOTE 2 AND 3)

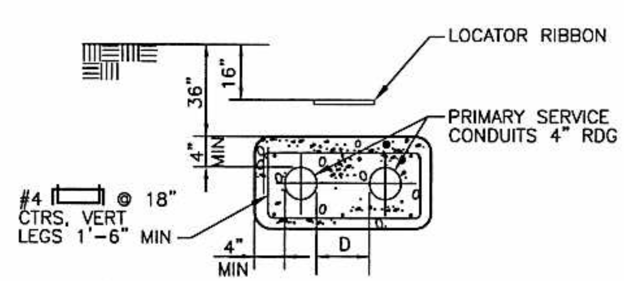


POLE LINE PLAN

0 40 80 120
1"=40'

SAG AND TENSION TABLE

Length of Ruling Span in Feet : 256.0								
	Initial			Final				
Temp Deg F.	Sag in Feet	Sag in Feet-Inches	Tension Pounds	Sag in Feet	Sag in Feet-Inches	Tension Pounds	Ice
15	5.20	5'-2.4"	834	5.20	5'-2.4"	834	.25
32	3.03	3'-.36"	574	3.53	3'-6.36"	494	.25
0	0.83	0'-9.96"	563	1.06	1'-.72"	339	.00
15	0.90	0'-9.96"	517	1.24	1'-2.88"	376	.00
30	0.99	0'-11.8"	470	1.47	1'-5.64"	318	.00
60	1.26	1'-3.12"	372	2.12	2'-1.44"	220	.00
90	1.69	1'-8.28"	276	2.97	2'-11.64"	158	.00
120	2.38	2'-4.56"	196	3.36	3'-4.32"	139	.00
167	3.72	3'-8.64"	126	3.94	3'-11.28"	119	.00
212	4.43	4'-5.16"	106	4.50	4'-6	104	.00
Conductor SWAN # 4 AWG 6/ 1 Stranding ACSR							
Area = .0382 Sq. In Dia. = .250 In Wt. = .057 Lb/F RTS = 1860 Lb.							
Span = 256.0 Feet NESC Medium Load Zone Max Wind Psf = 4.00							



SECTION (R)

NTS

NOTES

1. FOR GENERAL NOTES AND LEGEND, SEE DWG H-2-830825, SHT 3.
2. THE CONDUCTOR SAGS THAT ARE SHOWN ON THE POLE LINE PROFILE ARE WORST CASE.
3. FOR ACTUAL STRINGING AND SAGGING INFORMATION FOR THE NEW #4 AWG, 6/1, ACSR, SEE THE SAG AND TENSION TABLE.
4. EXISTING SERIES LIGHTING CIRCUIT, 6.6A, 2400V. SURVEY FOR POTENTIAL CONFLICTS. MAINTAIN NESC CLEARANCES BETWEEN PRIMARY POWER AND LIGHTING CONDUCTORS. COORDINATE THE LOWERING OF LIGHTING CONDUCTORS WITH CONSTRUCTION MANAGER.

LAWRENCE GERARD FOX
STATE OF WASHINGTON
35278
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 09/18/05
02/04/04

CH2MHILL

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR	COMPANY
REV Rel	REVISIONS				

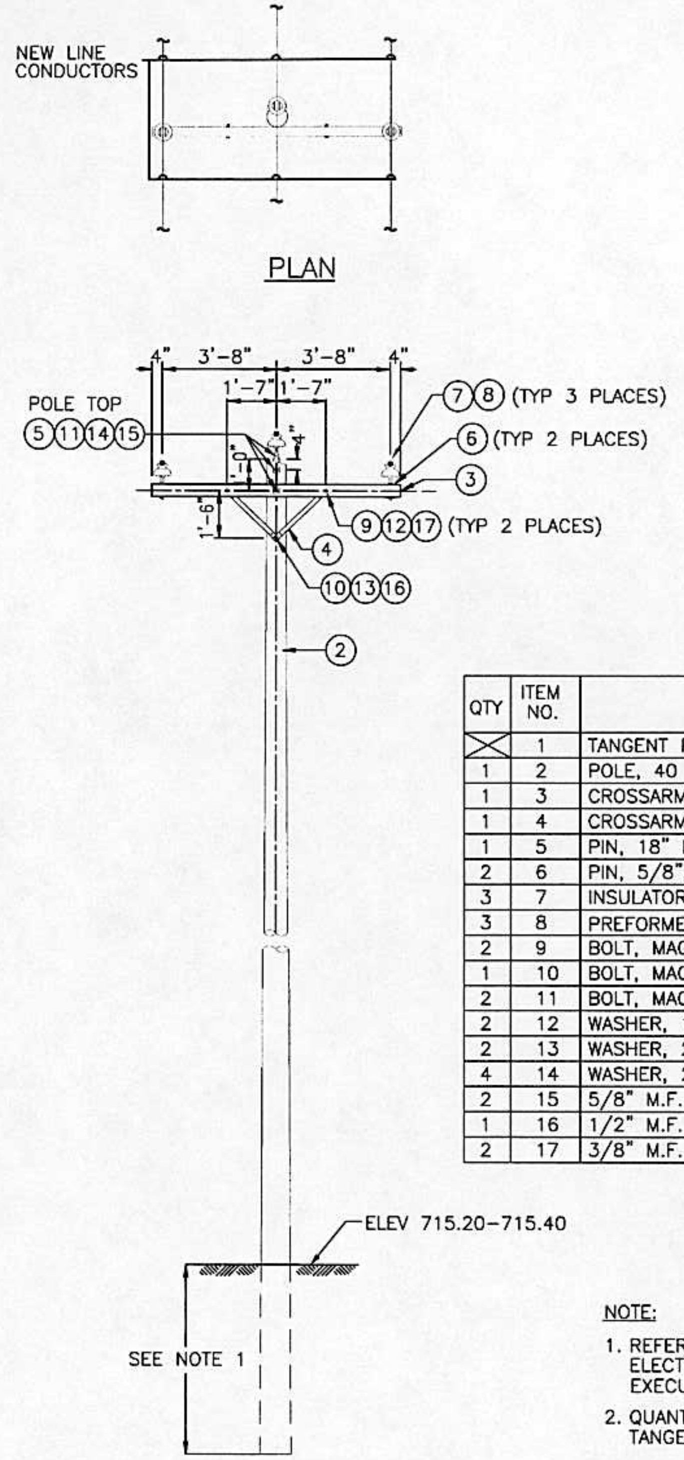
NAME	DATE	COMPANY
DRAWN BY L. WAGNER	02/04/04	CH2MHill
DFTG APPROVED L. FOX	02/04/04	CH2MHill
DESIGN AUTHORITY E. GIROIS	2/4/04	CH2MHill

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ELECTRICAL PRIMARY SERVICE
SITE PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-831138	A
SCALE 1'=40'	EDT	634144	SHEET 2 OF	

XXXX PLOTID XXXX
ORP_TB_D [12-02].DWG



ELEVATION

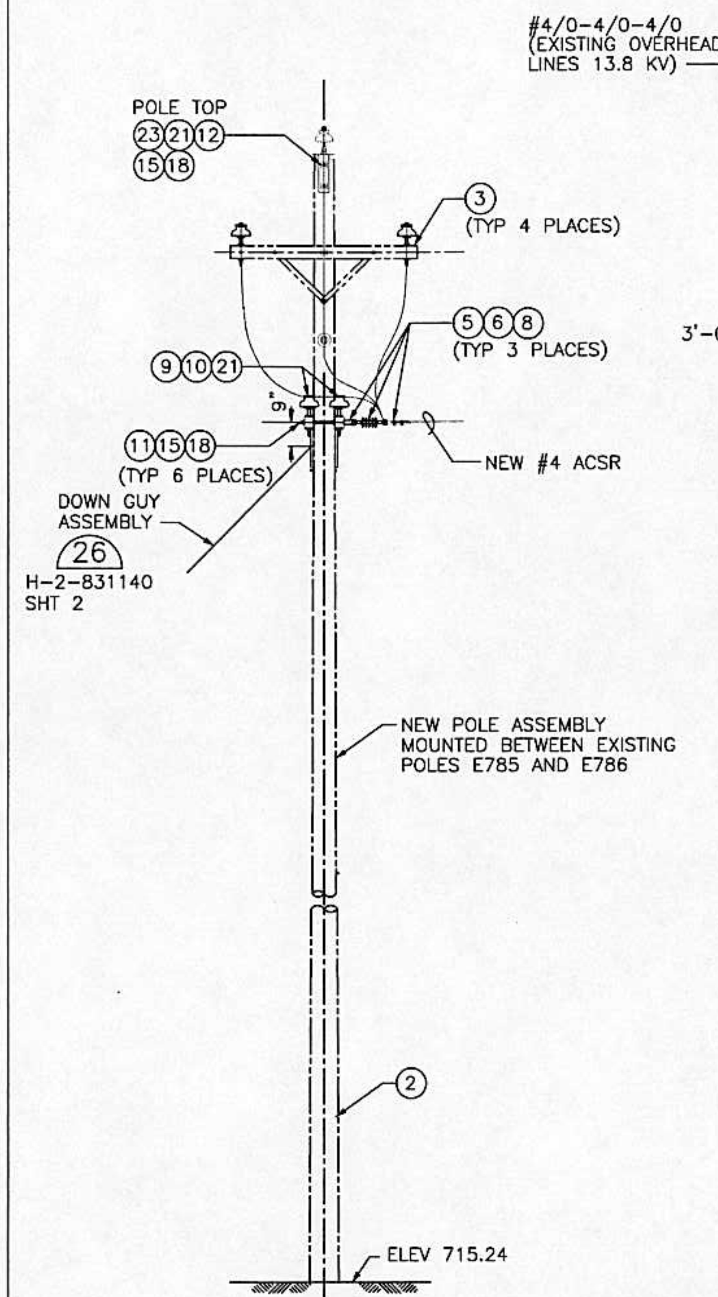
QTY	ITEM NO.	DESCRIPTION
X	1	TANGENT POLE ASSEMBLY NO. X (SEE NOTE 2)
1	2	POLE, 40 FT CLASS 4
1	3	CROSSARM, 3-1/2" X 4-1/2" X 8'-0"
1	4	CROSSARM BRACE, WOOD, 26" (PAIR)
1	5	PIN, 18" POLE TOP, WITH 1" LEAD THREAD
2	6	PIN, 5/8", LONG SHANK, WITH 1" LEAD THREAD
3	7	INSULATOR, PIN TYPE, 15KV
3	8	PREFORMED CONDUCTOR TIE FOR #4 AWG, 6/1 ACSR
2	9	BOLT, MACHINE, 3/8" X 4-1/2"
1	10	BOLT, MACHINE, 1/2" X LENGTH AS REQUIRED
2	11	BOLT, MACHINE, 5/8" X LENGTH AS REQUIRED
2	12	WASHER, 1" ROUND, 7/16" HOLE
2	13	WASHER, 2" ROUND, 9/16" HOLE
4	14	WASHER, 2-1/4" SQUARE, 11/16" HOLE
2	15	5/8" M.F. LOCKNUT
1	16	1/2" M.F. LOCKNUT
2	17	3/8" M.F. LOCKNUT

NOTE:

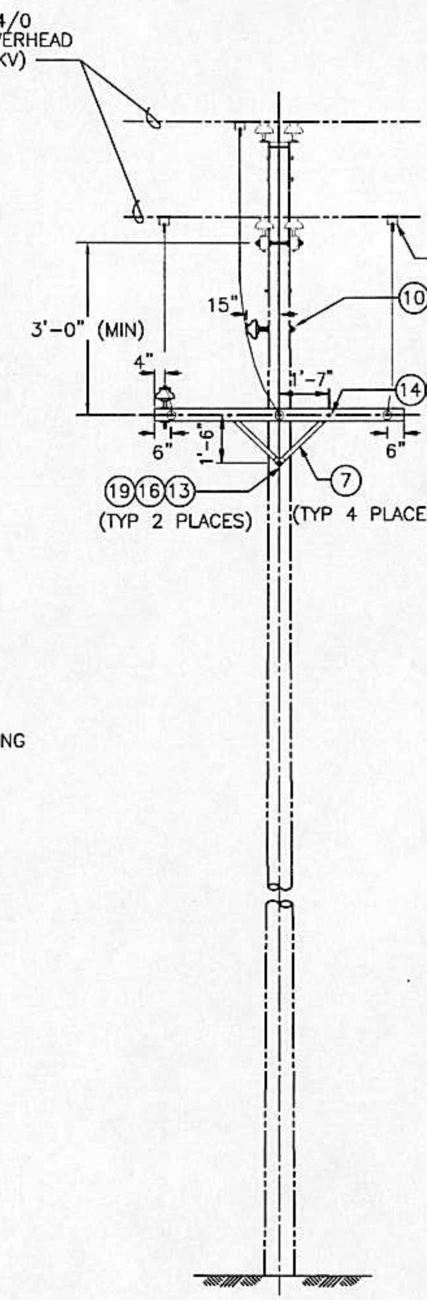
1. REFERENCE SECTION 16312 OVERHEAD ELECTRICAL DISTRIBUTION, PART 3 EXECUTION, FOR POLE DEPTH SETTINGS.
2. QUANTITIES ARE TYPICAL FOR EACH TANGENT POLE ASSEMBLY.

TANGENT POLE ASSEMBLY (23)

NTS — POLES NO. E2808, E2809, E2810 — H-2-831138 SHT 2



LOOKING EAST



LOOKING NORTH

QTY	ITEM NO.	DESCRIPTION
X	1	ASSEMBLY NO. E2807, LINE C8-L6 TAKEOFF
	2	POLE, 40 FT CLASS 4
4	3	CROSSARM, 3-1/2" X 4-1/2" X 8'-0"
4	4	CROSSARM BRACE, WOOD, 26" (PAIR)
3	5	DEADEND INSULATOR, EPOXY, 15KV
3	6	DEADEND CLAMP, ALUM STRAIGHT LINE, #4 ACSR
3	7	HOTLINE CLAMP AND BAIL FOR 4/0 ACSR
3	8	CLEVIS DEADEND, GALV FLAT STEEL 5/8"
8	9	PIN, 5/8", LONG SHANK WITH 1" LEAD HEAD
11	10	INSULATOR, PIN TYPE, 15KV
6	11	BOLT, DA, MACHINE, 5/8" X REQ'D LENGTH
3	12	BOLT, MACHINE, 5/8" X REQ'D LENGTH
2	13	BOLT, MACHINE, 1/2" X REQ'D LENGTH
8	14	BOLT, MACHINE, 3/8" X 4 1/2"
22	15	5/8" M.F. LOCKNUT
2	16	1/2" M.F. LOCKNUT
8	17	3/8" M.F. LOCK NUT
15	18	WASHER, 2-1/4" SQUARE, 11/16" HOLE
4	19	WASHER, 2" ROUND, 9/16" HOLE
8	20	WASHER, 1" ROUND, 7/16" HOLE
AR	21	ALUMINUM TIE WIRE
1	22	THIMBLE ADAPTER PIN, 5/8" W/1"LEAD THREAD
2	23	PIN, 18" POLE TOP WITH 1" LEAD THREAD

NOTE:

1. REFERENCE SECTION 16312 OVERHEAD ELECTRICAL DISTRIBUTION, PART 3 EXECUTION, FOR POLE DEPTH SETTINGS.

LINE C8-L6 TAKEOFF ASSEMBLY (24)

NTS — POLE NO. E2807 — H-2-831138 SHT 2

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

02/06/04 LAWRENCE GERARD FOX, STATE OF WASHINGTON, 35278 REGISTERED PROFESSIONAL ENGINEER — EXPIRES 09/18/05

CH2MHILL

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD / REV Rel	REV NO	DESCRIPTION	REV BY DATE			ENGR / COMPANY
REVISIONS						

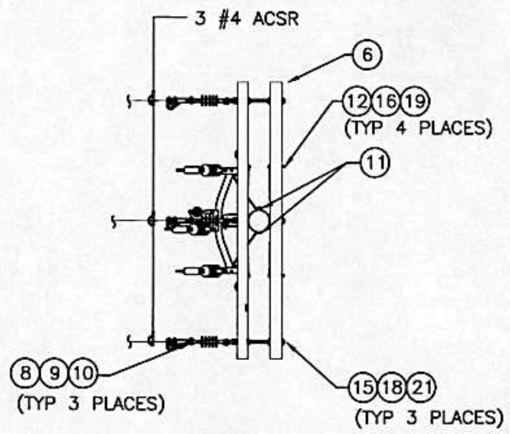
NAME	DATE / COMPANY
DRAWN BY L WAGNER (signature)	02/06/04 CH2MHILL
DFTC APPROVED L. FOX (signature)	02/06/04 CH2MHILL
DESIGN AUTHORITY E CIRCIS (signature)	2/9/04 CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

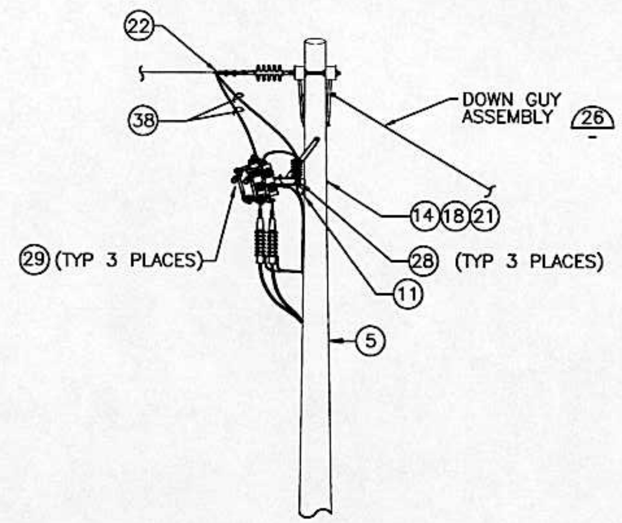
TITLE: IDF ELECTRICAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	7301	H-2-831140	A
SCALE NTS	EDT 634144		SHEET 1 OF 3	

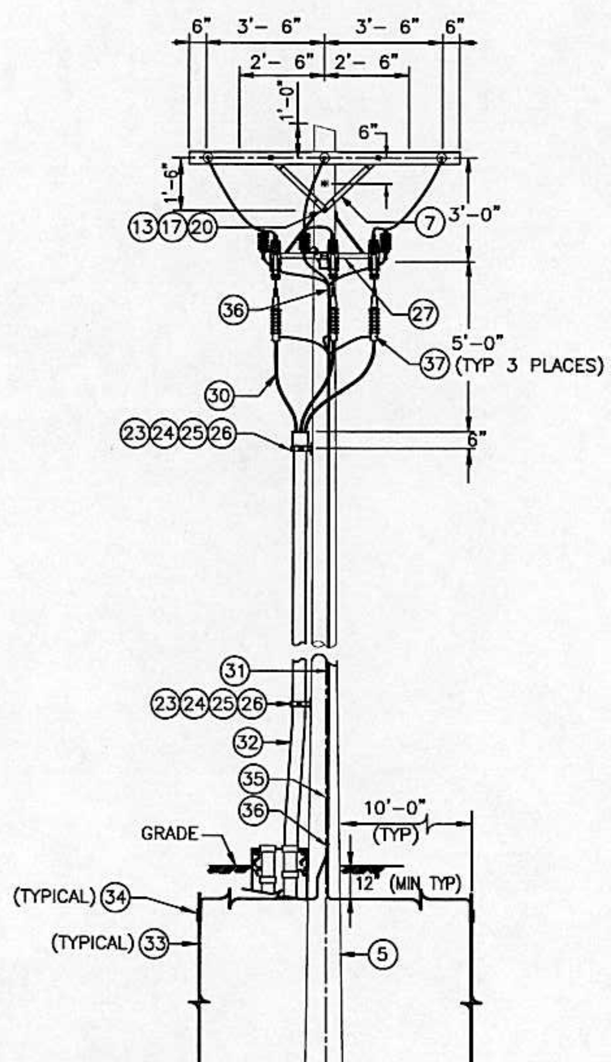
XXXX PLOTID XXXX — ORP_TB_D [12-02].DWG



PLAN



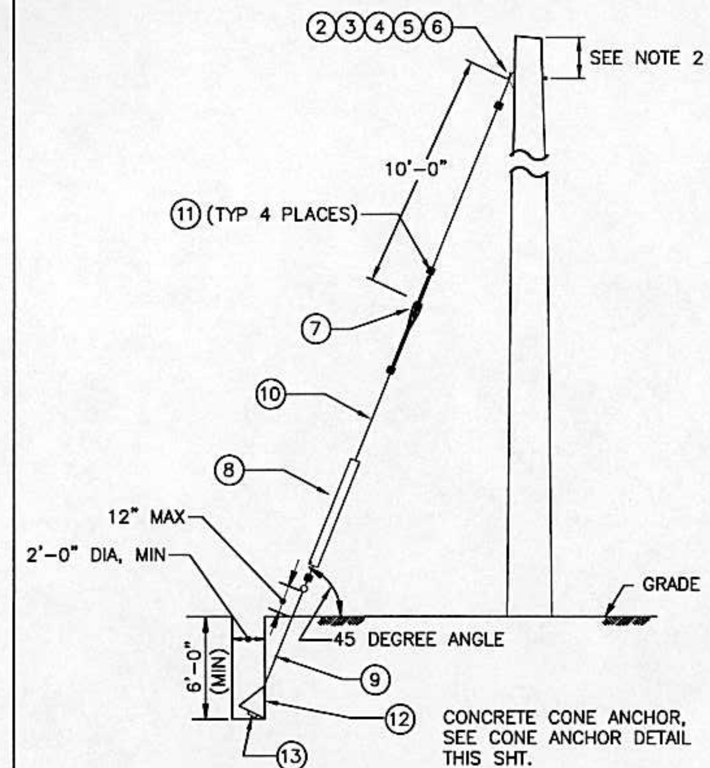
(LOOKING EAST)



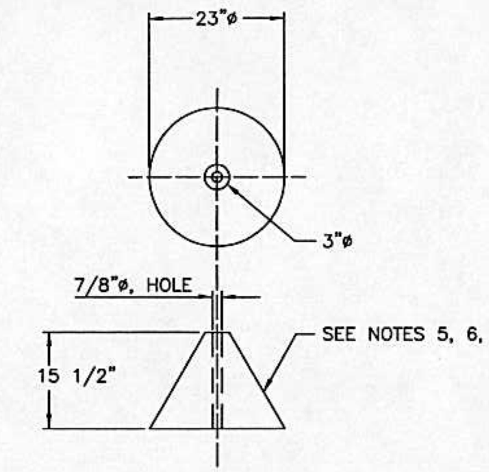
ELEVATION LOOKING SOUTH

RISER POLE ASSEMBLY 25
NTS
H-2-831138
SHT 2

QTY			ITEM NO.	DESCRIPTION
		X	1	ASSEMBLY NO. E2811
	X		2	
X			3	
			4	
		1	5	POLE, 40 FT CLASS 2
		2	6	CROSSARM, 3-1/2" X 4-1/2" X 8'-0"
		2	7	CROSSARM BRACE, WOOD, SPAN 38" X DROP 18", PR
		3	8	INSULATOR, DEADEND, 15KV, EPOXY
		3	9	DEADEND CONDUCTOR CLAMP, #4 ACSR 6/1
		3	10	CLEVIS DEADEND, GALV FLAT STEEL, 3/4"
		3	11	BOLT, LAG, 1/2" X 4"
		4	12	BOLT, MACHINE, 3/8" X 5"
		1	13	BOLT, MACHINE, 1/2" X 6"
		2	14	BOLT, MACHINE, 5/8" X REQ'D LENGTH
		3	15	BOLT, DOUBLE ARMING, 5/8" X REQ'D LENGTH
		8	16	WASHER, ROUND, 1", 7/16" HOLE
		2	17	WASHER, ROUND, 2", 9/16" HOLE
		12	18	WASHER, SQUARE, 2-1/4", 11/16" HOLE
		4	19	NUT, LOCK MF 3/8"
		1	20	NUT, LOCK MF 1/2"
		12	21	NUT, LOCK MF 5/8"
		3	22	CLAMP, #4 ACSR TO #6 COPPER
		3	23	SCREW LAG 1/2" X 4"
		3	24	WASHER, ROUND 1" X 9/16" HOLE
		3	25	BRACKET, RISER SUPPORT
		3	26	CLAMP, CONDUIT, 4"
		1	27	ALUMA-FORM #R3CA MOUNTING BRACKET
		3	28	LIGHTNING ARRESTER, 18KV
		3	29	CUTOUT, 15KV, WITH 6T FUSE
		3	30	POWER CABLE, 15KV, #2 COPPER SHIELDED
		AR	31	GROUND WIRE, NO. 4 COPPER SD BARE
		AR	32	CONDUIT, 4", GALV, RIGID STEEL
		2	33	GROUND ROD, CU PLATED STEEL, 10'X 3/4" DIA
		AR	34	#4 NICO TAP
		AR	35	STAPLES, GROUND WIRE
		3	36	COMPRESSION CONNECTOR
		3	37	CABLE TERMINATOR, 15KV, HEAT SHRINK TYPE
		AR	38	#6 COPPER, JUMPER WIRE



ELEVATION



CONE ANCHOR DETAIL

	QTY	ITEM NO.	DESCRIPTION
	X	1	ASSEMBLY NO. X DOWN GUY (SEE NOTE1)
	1	2	GALV BOLT, 3/4"X LENGTH AS REQUIRED
	1	3	3/4" M.F. LOCKNUT
	1	4	WASHER, 3-1/4" SQ CURVED, 13/16" HOLE
*	1	5	GUY HOOK, 3/4"
	1	6	1/2" X 4", GALV LAG SCREW
*	1	7	STRAIN INSULATOR
	1	8	GUY GUARD, YELLOW PLASTIC, 8'- 0"X 2", FULL RND
*	1	9	ANCHOR ROD, TWIN EYE, 3/4"X 9'- 0"
	1	10	GALV EHS GUY STRAND, 3/8", 7 STRAND, RATED 11,500 LBS
*	4	11	GUY GRIP, 3-BOLT, STRANDVISE, OR PREFORMED
	1	12	CONCRETE CONE ANCHOR, SEE DETAIL
	1	13	WASHER, 4" SQUARE X 1/2" THICK, 13/16" HOLE

* – THE STRENGTH OF THESE ITEMS SHALL MEET OR EXCEED THAT OF ITEM NO. 10.

GUY TENSION TABLE

POLE #	# OF GUYS	ANGLE OF GUY	TENSION OF GUY
E2807, E2811	1	45°	*5989 LBS

* – SEE NOTE 4.

NOTES:

1. QUANTITIES ARE TYPICAL FOR EACH DOWN GUY ASSEMBLY.
2. REFERENCE DETAILS 24, 25 ON DWG H-2-831140 SHTS 1, 2 FOR ACTUAL POLE ATTACHMENT LOCATIONS.
3. FOR GUY STRAND TENSION, SEE GUY TENSION TABLE.
4. GUY TENSION BASED UPON 3-#4, 6/1 ACSR WITH A MAXIMUM TENSION OF 834 LBS/ CONDUCTOR TIMES AN NESC SAFETY FACTOR OF 1.65, AND DIVIDED BY SINE (45°) FOR GRADE "B" CONSTRUCTION.
5. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
6. COARSE AGGREGATE SHALL BE 3/4" MAXIMUM.
7. THE CONCRETE SHALL BE WELL-COMPACTED. REFERENCE SECTION 02315 BACKFILL.

DOWN GUY ASSEMBLY 26
NTS POLES E2807, E2811
H-2-831140
SHT 1

02/06/04
LAWRENCE GERARD FOX, STATE OF WASHINGTON, 35278 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/18/05

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO.

INDEX NO.

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE				ENGR / COMPANY
REV Rel		REVISIONS					

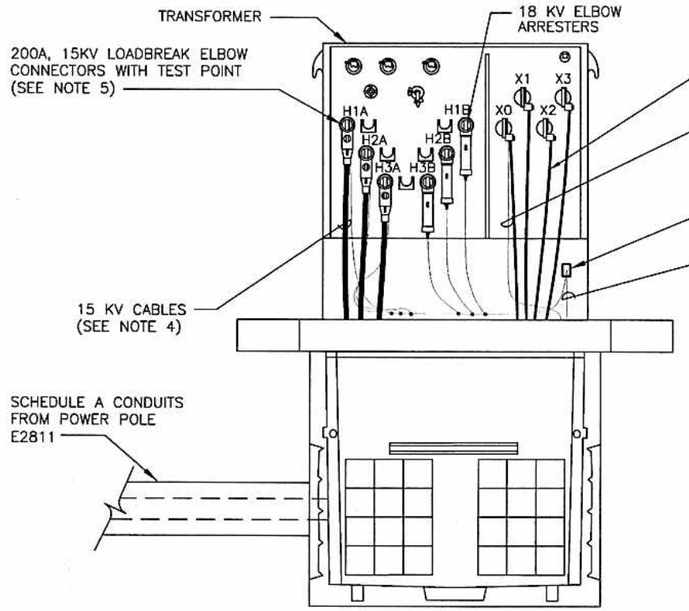
NAME	DATE	COMPANY
DRAWN BY L WAGNER	02/06/04	CH2MHILL
DFTG APPROVED L FOX	02/06/04	CH2MHILL
DESIGN AUTHORITY E GIRCIS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ELECTRICAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	7301	H-2-831140	A
SCALE NTS		EDT 634144	SHEET 2 OF	

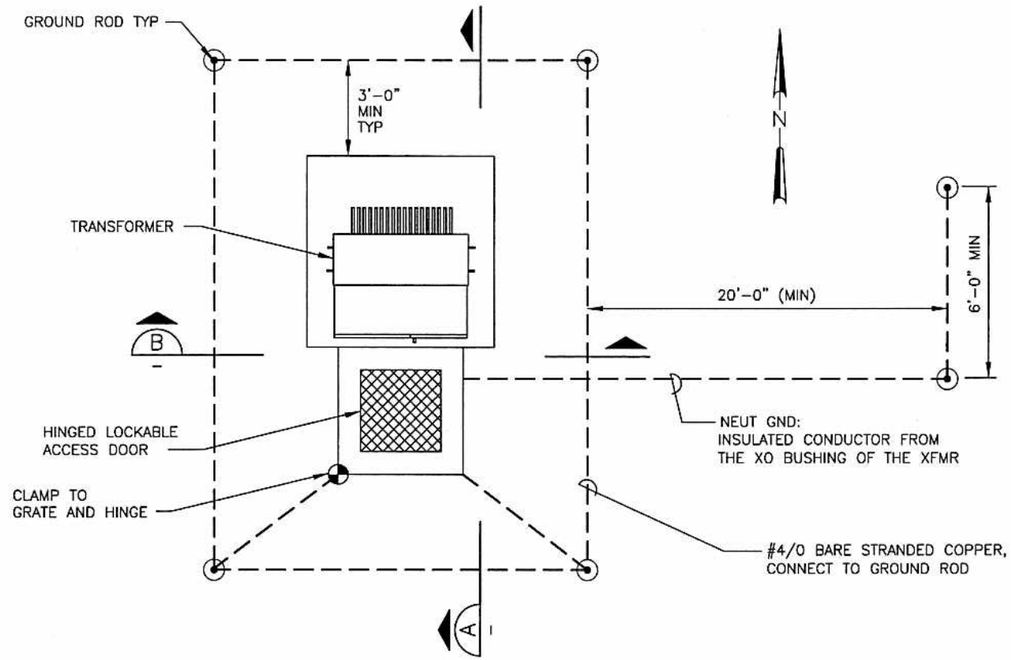
XXXX PLOTID XXXX
ORP_TB_D [12-02].DWG



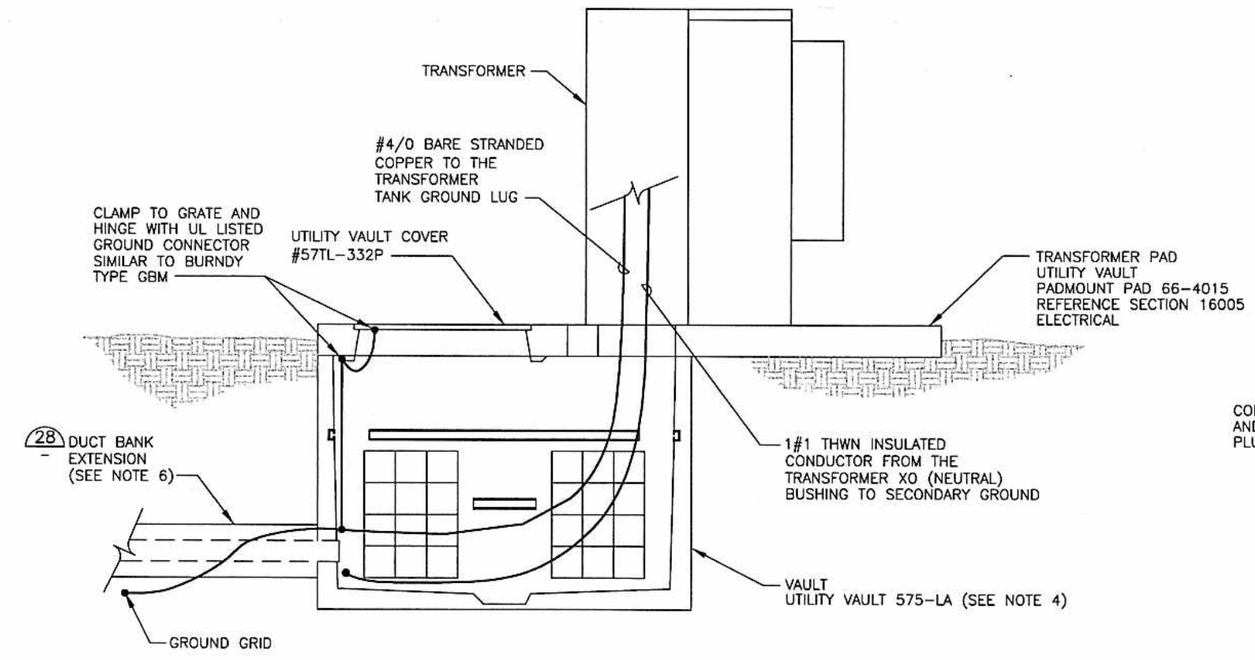
SECTION B
SCALE: 1"=1'- 0"

NOTES:

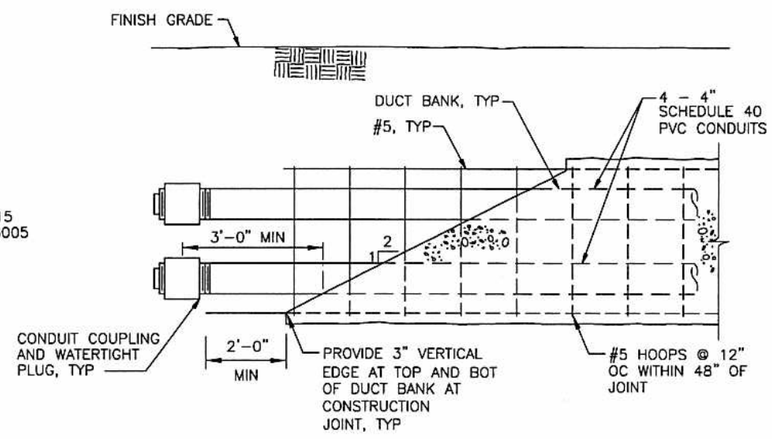
1. SEE DWG H-2-830825, SHT 3 FOR LEGEND SYMBOLOGY.
2. SEE CONDUIT AND CABLE SCHEDULE ON DWG H-2-830864, SHT 4-SHT 6.
3. COORDINATE ALL PRIMARY AND SECONDARY WORK ASSOCIATED WITH PAD MOUNT TRANSFORMER (i.e. PLACEMENT, GROUNDING, CONDUITS, METERING, CABLES) WITH CONSTRUCTION MANAGER WHO IN TURN WILL CONTACT FHEU.
4. REFERENCE SECTION 16005 ELECTRICAL.
5. SURGE ARRESTERS 18kv NOT SHOWN BUT REQUIRED PER SECTION 16270.
6. INSTALL DUCT BANK EXTENSION (10') CONSISTING OF 4-4"C IN ORDER TO FACILITATE SCHEDULE B CONSTRUCTION, AND TO CLEAR GROUNDING INSTALLATIONS.



TRANSFORMER PAD/VAULT PLAN 27
SCALE: 1/2"=1'- 0"
H-2-831138 SHT 1, SHT 2



SECTION A
SCALE: 1"=1'- 0"



DUCT BANK EXTENSION 28
NTS
H-2-831138 SHT 2, H-2-831140 SHT 3

02/06/04 LAWRENCE GERARD ST STATE OF WASHINGTON 35278 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/18/05
THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.

CH2MHILL

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS					
DWG NO	TITLE	REF NUMBER	TITLE	NFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY	
		NEXT USED ON		REV Rel					

NAME	DATE	COMPANY
DRAWN BY L WAGNER	02/06/04	CH2MHILL
DESIGNED BY L FOX	02/06/04	CH2MHILL
DESIGN AUTHORITY E GROSS	2/9/04	
	2/24/04	

U.S. DEPARTMENT OF ENERGY
Office of River Protection

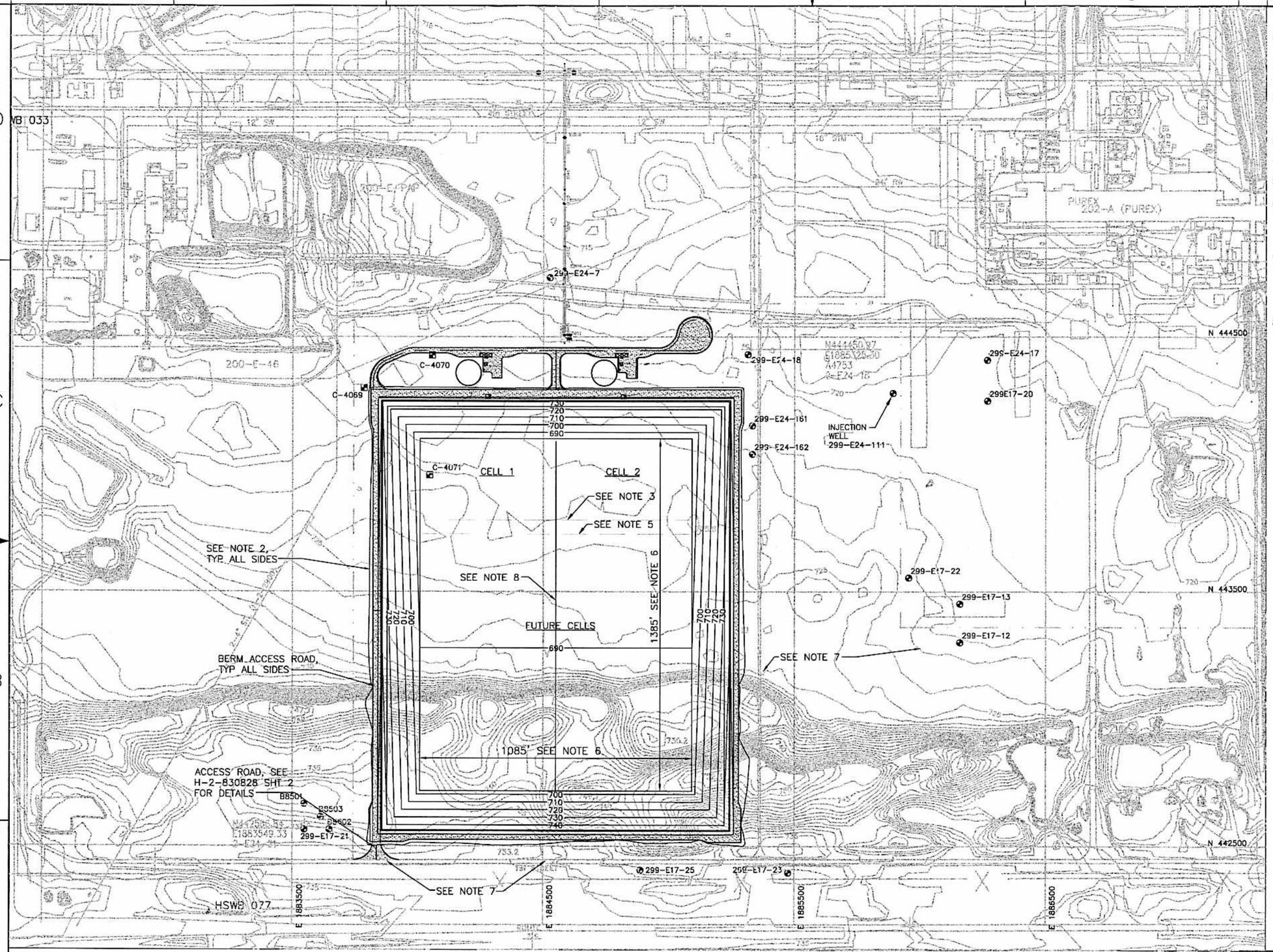
TITLE
IDF
ELECTRICAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	7301	H-2-831140	A
SCALE NTS	EDT 634144	SHEET 3 OF		

XXXX PLOTID XXXX
ORP_TB_D [12-03].DWG

NOTES:

1. OVERALL SITE PLAN INFORMATION SHOWN IS FOR PERMIT INFORMATION. DWG H-2-830827 IS NOT FOR CONSTRUCTION.
2. APPROXIMATE EDGE OF CLOSURE COVER FOR IDF MATCHES THE TOE OF SLOPE OF THE BERM ACCESS ROAD. CLOSURE COVER IS NOT A PART OF DETAILED DESIGN.
3. APPROXIMATE TOE OF SLOPE OF WASTE IN CELLS 1 AND 2.
4. IDF CONTOURS SHOWN ARE FOR TOP OF OPERATIONS LAYER.
5. SOUTH EDGE OF LINER IN CELLS 1 AND 2.
6. ULTIMATE LANDFILL DIMENSIONS:
   OPS (FLOOR DIMENSION) LAYER – 1385' x 1085'
   TOP OF 3.3 FT CLEAN FILL COVER ABOVE 4TH WASTE LAYER – 1645' x 1345'
7. 1ST STREET UPGRADES ARE NOT INCLUDED IN THIS DESIGN. THESE IMPROVEMENTS WILL BE ADDRESSED AS PART OF FUTURE DESIGN PACKAGES. 1ST ST. IMPROVEMENTS DESIGN SHOULD ADDRESS ACCESS ROAD CONNECT TO BERM ACCESS ROAD AT SW CORNER OF IDF.
8. BOUNDARY LINE BETWEEN CELLS.



0 200 400 600
1"=200'

N

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV Rel	REVISIONS		

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

JOHN N. WINTERS STATE OF WASHINGTON 30601 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 04/04/04

CH2MHILL

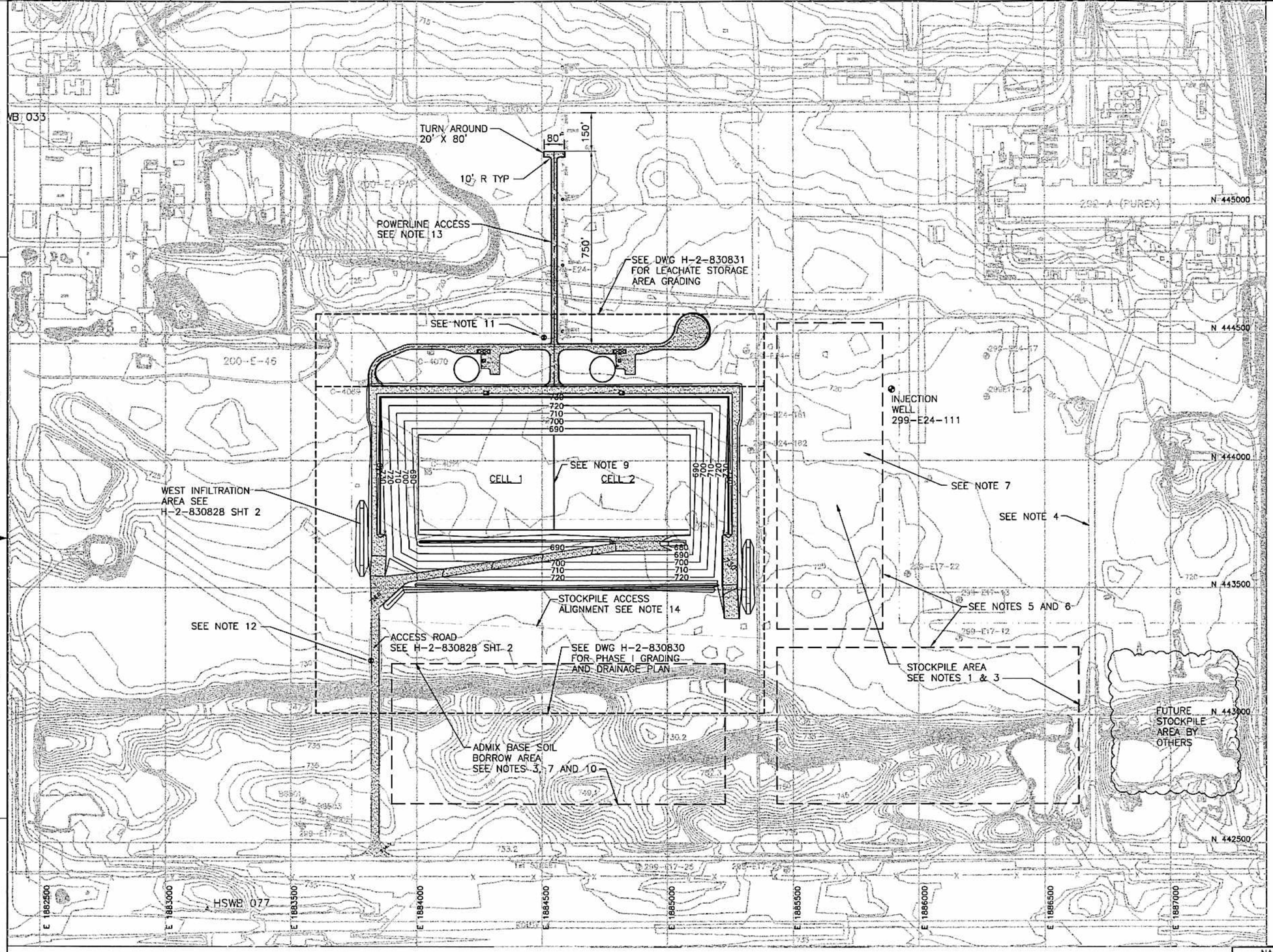
NAME	DATE	COMPANY
DRAWN BY G ALMSTROM	2/9/04	CH2MHILL
DWG APPROVED J WINTERS	2/9/04	CH2MHILL
DESIGN AUTHORITY E GIROIS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
OVERALL SITE
DEVELOPMENT PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-830827	A

SCALE 1"=200' EDT 634144 SHEET 1 OF 1



NOTES:

1. CONTRACTOR TO ESTABLISH CONSTRUCTION HAUL ROAD ALIGNMENTS BETWEEN CONSTRUCTION AND STOCKPILE AREAS ON SITE.
2. CONTOURS SHOWN FOR INTERIOR SURFACES OF CELLS 1 AND 2 ARE TOP OF OPERATIONS LAYER.
3. SEE SPECIFICATIONS FOR STOCKPILE AND BORROW AREA GRADING REQUIREMENTS.
4. MAINTAIN ACCESS AND DO NOT BLOCK ROAD TO PUREX FACILITY, TYPICAL FULL LENGTH.
5. MAINTAIN A MINIMUM 50 FOOT BUFFER SPACE BETWEEN PROJECT BOUNDARY AND STOCKPILE/CONSTRUCTION ACTIVITIES.
6. POTENTIAL STOCKPILE AREAS. APPROX. TOE OF SLOPE SHOWN. CONTRACTOR TO PROVIDE DETAILED STOCKPILE PLAN AS SPECIFIED.
7. CLEAR, GRUB, AND STRIP ONLY THE MINIMUM AREAS NECESSARY. CLEARED AREAS SHOULD NOT EXTEND MORE THAN 10' BEYOND CATCHLINES FOR STOCKPILES, BORROW AREAS, ROADS, EXCAVATIONS, AND FILLS.
8. SEED, FERTILIZE, AND MULCH AS SPECIFIED, AREAS OUTSIDE OF THE EXCAVATION AREAS THAT ARE DISTURBED BY CONSTRUCTION AND THAT ARE NOT OTHERWISE STABILIZED. PLACE A 6" THICK LAYER OF TOPSOIL PRIOR TO SEEDING IN ALL AREAS TO BE SEEDED.
9. BOUNDARY BETWEEN CELLS 1 AND 2.
10. CONTRACTOR TO LIMIT BORROW ACTIVITIES TO AREA SHOWN.
11. VALVE FOR GENERAL CONSTRUCTION CONTRACTOR PROVIDED WATER FILL STATION. SEE DETAIL 1 ON DWG H-2-830845.
12. VALVE FOR GENERAL CONSTRUCTION CONTRACTOR PROVIDED PUG MILL. SEE DETAIL 1 ON DWG H-2-830845.
13. CONSTRUCT POWER LINE ACCESS WITH TURNAROUND ON NORTH END. CENTER ACCESS ALIGNMENT ON IDF LANDFILL CENTERLINE (SEE CONTROL POINTS 305 AND 311 ON DWG H-2-830831). CLEAR, STRIP AND GRUB ACCESS ROUTE PRIOR TO PLACING CSTC. CONSTRUCT ACCESS SECTION 20 FT WIDE USING COMPACTED CSTC RESULTING IN A 6-INCH THICK CROSS-SECTION. FINISHED GRADE TO MATCH ADJACENT GROUND SURFACE. CROSS SECTION SURFACE SHOULD BE SLOPED TO DRAIN SIMILAR TO TYPICAL ROAD SECTION SHOWN ON DETAIL 1 ON DWG H-2-830835 SHT 2.
14. AFTER CONSTRUCTION OF IDF CELLS 1 AND 2 IS COMPLETE, CONSTRUCT A 1520 FT LONG, 30 FT WIDE ACCESS ROUTE USING COMPACTED CSBC MATERIAL RESULTING IN AN 8-INCH THICK CROSS SECTION. PRELIMINARY ALIGNMENT CENTERLINE IS SHOWN, COORDINATE FINAL ALIGNMENT WITH CONSTRUCTION MANAGER. CONSTRUCT THIS ACCESS ROUTE FOLLOWING SITE PREPARATION, GRADING AND CROSS SECTION SLOPE AS DESCRIBED IN NOTE 13 FOR POWER LINE ACCESS.

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

JOHN N. WINTERS STATE OF WASHINGTON 30601 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 04/04/04 2/9/04

CH2MHILL

0 200 400 600
1"=200'

N

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

WFD REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV Ref	REVISIONS		

NAME	DATE	COMPANY
DRAWN BY G. ALNSTROM	2/9/04	CH2MHill
DES APPROVED J. WINTERS	2/9/04	CH2MHill
DESIGN AUTHORITY E. ORGIS	2/9/04	CH2MHill

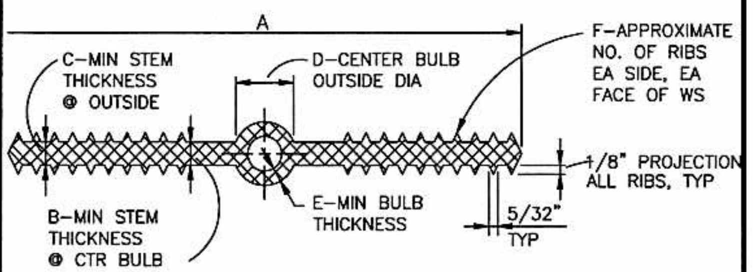
U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
CELLS 1 AND 2
SITE AND ACCESS PLAN

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0110	H-2-830828	A

SCALE 1'=200' EDT 634144 SHEET 1 OF 3

17-Jan-2003 15:08:20 2 XXXX PLOTID XXXX DRP_TBLD [12-02].DWG

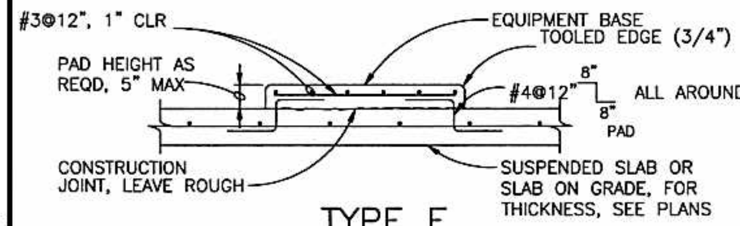


SIZE	A	B	C	D	E	F
6"x3/8"	6"	3/8"	3/8"	7/8"	1/4"	6

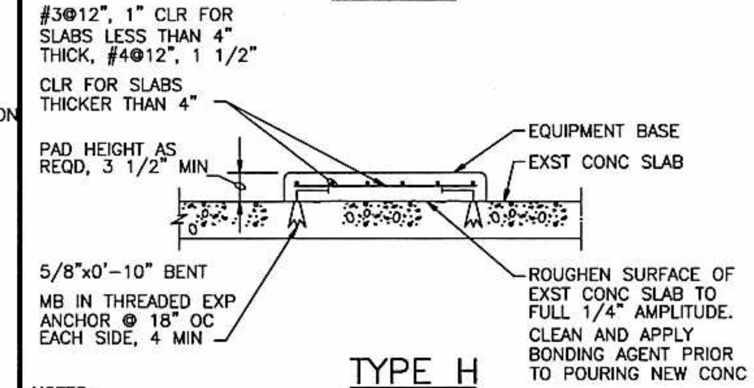
NOTE:
WATER STOP JOINTS SHALL BE CONTINUOUS AROUND CORNER AND CONNECTED PER WATER STOP JONITS (5)

PLASTIC WATERSTOP (1)

NTS
H-2-830866
H-2-830867
H-2-830868



TYPE F



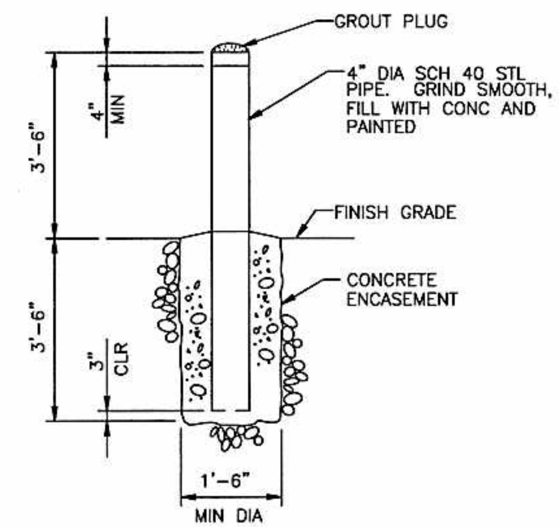
TYPE H

NOTES:

1. BONDING AGENT-TYPE AS RECOMMENDED FOR THIS APPLICATION, AS MANUFACTURED BY W.R. GRACE CO., SIKA CHEMICAL CORPORATION OR ADHESIVE ENGINEERING COMPANY.
2. EXPANSION ANCHORS-SELF DRILLING, SNAP-OFF OR FLUSH TYPE AS MANUFACTURED BY I.T.T. PHILLIPS DRILL DIVISION, OR HILTI HDI DROP-IN ANCHORS, OR EQUAL.
3. EQUIPMENT BASE SHALL BE INSTALLED LEVEL.
4. PAD SIZE SHALL BE AS INDICATED OR SHOWN ON THE PLANS. WHERE SIZE IS NOT INDICATED OR SHOWN, PAD SIZE SHALL BE DETERMINED BY THE EQUIPMENT SUPPLIER.
5. WHEN ANCHORAGE OF EQUIPMENT TO CONCRETE IS REQUIRED, USE SST WEDGE ANCHORS SPECIFIED.

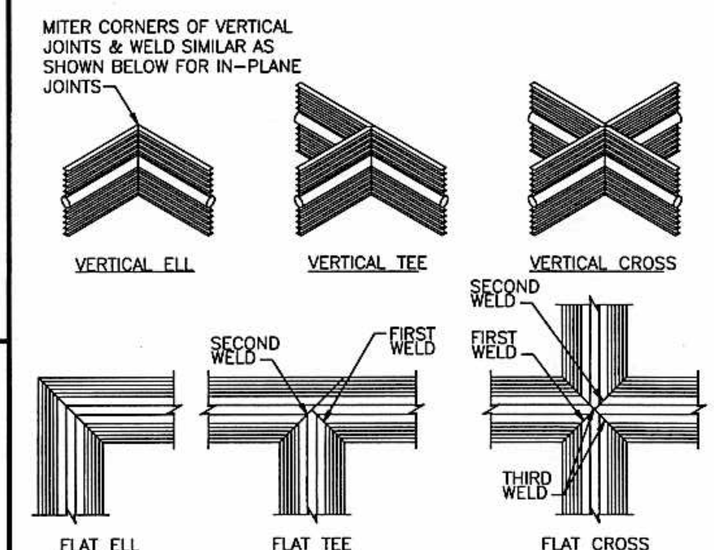
EQUIPMENT PAD (3)

NTS H-2-830865



BOLLARD (4)

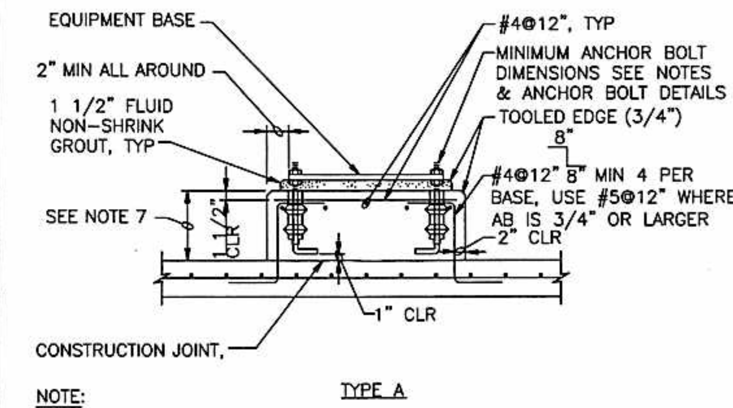
NTS H-2-830867



NOTE:
ALL WELDS SHALL BE PER WATERSTOP MANUFACTURER'S RECOMMENDATIONS.

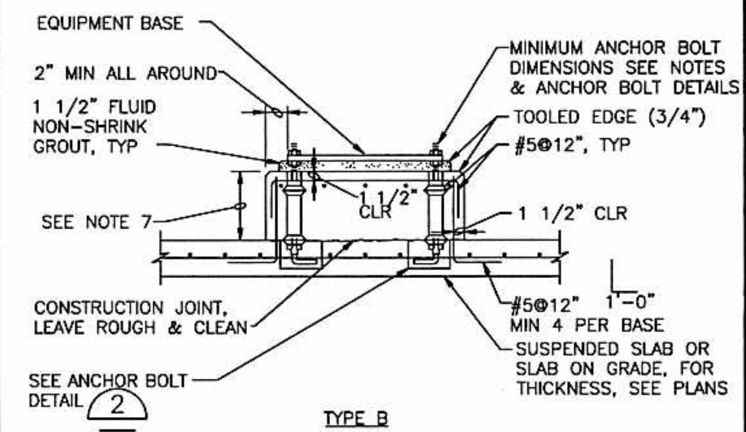
WATERSTOP JOINTS (5)

NTS



TYPE A

NOTE:
SEE EQUIPMENT PAD NOTES.

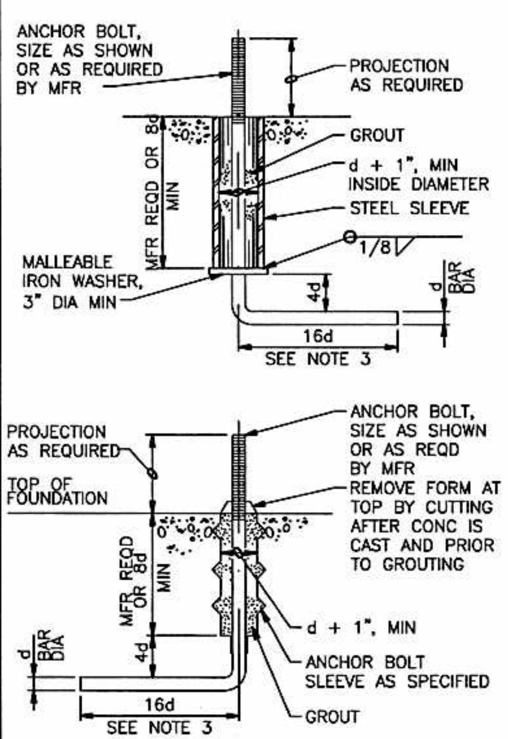


TYPE B

NOTE:
SEE EQUIPMENT PAD NOTES.

PAD HEIGHT TABLE

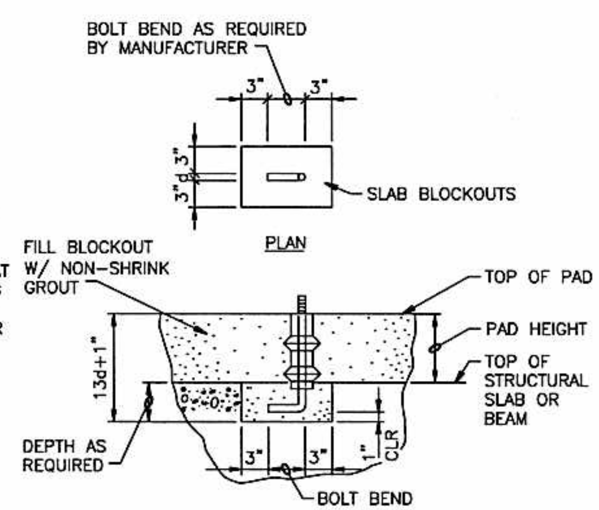
AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24



MACHINERY ANCHOR BOLT DETAIL

NOTES:

1. REFER TO EQUIPMENT BASE NOTES (6)
2. FOR BLOCKOUTS REFER TO ANCHOR BOLT BLOCKOUT DETAILS.
3. 3d WHERE MANUFACTURER VERIFIES NO BOLT PULLOUT RESISTANCE REQUIRED.



ANCHOR BOLT BLOCKOUT

ANCHOR BOLT DETAILS (2)

H-2-830871

NOTES:

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
6. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN, THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.
7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT OUT OF SLAB (SEE TABLE ABOVE). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE B WITH BLOCKOUT.

EQUIPMENT BASE (6)

NTS
H-2-830868
H-2-830851

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

INDEX NO.

SHINJI GOTO — STATE OF WASHINGTON — 35654 REGISTERED PROFESSIONAL ENGINEER
02/06/04
EXPIRES 7/27/04

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE
		REFERENCES	
DRAWING TRACEABILITY LIST		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR	COMPANY
REV Rel		REVISIONS			

NAME	DATE	COMPANY
DRAWN BY R LATTA	2/6/4	CH2MHILL
DFTG APPROVED S GOTO	2/6/4	CH2MHILL
DESIGN AUTHORITY E GIRGIS	2/9/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
STRUCTURAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D		0901	H-2-830871	A
SCALE AS SHOWN	EDT 634144		SHEET 1 OF 1	

XXXX PLOTID XXXX
CRP_TB_D [12-02].DWG

REINFORCING STEEL:

1. THE MINIMUM REINFORCING FOR ALL CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

WALL THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"	#5@12"	EACH FACE

PROVIDE LARGER SIZES AND MORE REINFORCING IN ALL SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.

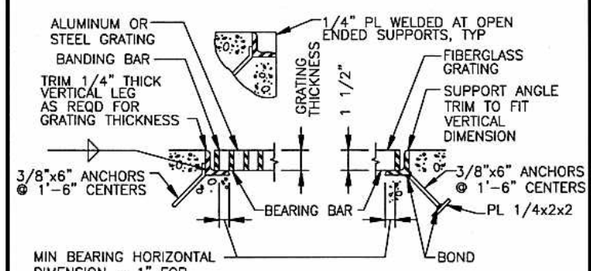
2. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN PLACED ON GROUND: —— 3"
   - ALL OTHER CONCRETE SURFACES:
     #5 BAR OR SMALLER —— 1 1/2"
     #6 BAR OR LARGER —— 2"
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL. IN GENERAL, THE WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE CALLED OUT ON THE PLANS AND REFERENCED TO THESE DETAILS AND THE TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE HORIZONTAL REINFORCING.
4. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE A 90 DEGREE STANDARD HOOK AS DEFINED IN LATEST EDITION OF ACI 318.
5. ALL WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED ELSEWHERE ON THIS SHEET.
6. VERTICAL WALL BARS SHALL BE LAPPED WITH DOWELS FROM BASE SLABS AND EXTENDED INTO THE TOP FACE OF ROOF SLABS AND LAPPED WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF TWO FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
7. UNLESS INDICATED OTHERWISE, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING, EXCEPT THAT TOP BAR SPLICES SHALL BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES SHALL BE LOCATED AT SUPPORTS. ALL REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENT:

CONCRETE DESIGN STRENGTH = 4,000 PSI		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING<6"	TOP BAR*	1'-4"	2'-0"	3'-0"	4'-0"	5'-10"	6'-8"	7'-6"	8'-4"	9'-2"
	OTHER BAR	1'-4"	1'-7"	2'-3"	3'-1"	4'-6"	5'-2"	5'-10"	6'-5"	7'-1"
SPACING>6"	TOP BAR*	1'-4"	1'-7"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-0"	7'-1"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-7"	5'-5"
EMBEDMENT LENGTH										
SPACING<6"	TOP BAR*	1'-0"	1'-7"	2'-3"	3'-1"	4'-6"	5'-2"	5'-10"	6'-5"	7'-1"
	OTHER BAR	1'-0"	1'-2"	1'-9"	2'-5"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"
SPACING>6"	TOP BAR*	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-7"	5'-5"
	OTHER BAR	1'-0"	1'-0"	1'-2"	1'-5"	2'-1"	2'-5"	2'-11"	3'-7"	4'-2"

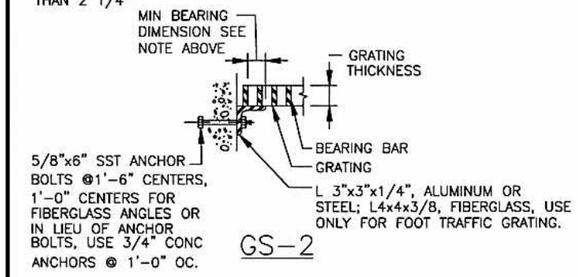
* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

8. CONTINUOUS WATERSTOP, AS SPECIFIED, SHALL BE INSTALLED IN ALL CONSTRUCTION JOINTS IN WALLS OF WATER HOLDING BASINS AND CHANNELS, EXCEPT WHERE INDICATED OTHERWISE.
9. PROVIDE AND INSTALL STRUCTURAL FILL AS SPECIFIED UNDER ALL SLABS AND FOOTINGS TO UNDISTURBED EARTH WITH MINIMUM THICKNESS EQUAL TO 6", UNLESS OTHERWISE NOTED.

STRUCTURAL NOTES (1)
NTS
H-2-830865
H-2-830866



GS-1



GS-2

VEHICULAR TRAFFIC NOTE:

STEEL GRATING BEARING BARS FOR VEHICULAR TRAFFIC SHALL BE SPACED AT 1 7/8" OC; ALUMINUM GRATING BEARING BARS FOR VEHICULAR TRAFFIC SHALL BE SPACED AT 1 3/16" OC.

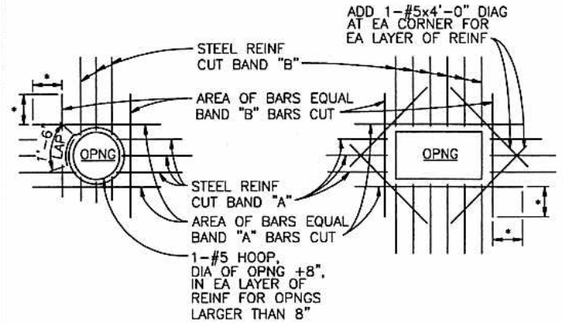
GENERAL NOTES:

1. EXTEND GRATING CONTINUOUSLY OVER GATE GUIDES AND GATES.
2. NOTCH GRATING SUPPORTS AT GATES AS REQUIRED.
3. GRATING SPAN ⟵⟶ SEE PLAN.
4. WIDTH OF GRATING SECTIONS SHALL NOT EXCEED 3'-0".
5. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
6. MATERIAL FOR SUPPORTS OF STEEL AND ALUMINUM GRATING TO BE SAME AS GRATING, EXCEPT METAL SUPPORTS THAT ARE TO BE EMBEDDED IN CONCRETE SHALL BE TYPE 316 STAINLESS STEEL.
7. UNLESS NOTED OTHERWISE ON PLANS, GRATING THICKNESS SHALL BE AS TABULATED IN "GRATING THICKNESS TABLE" FOR APPLICABLE TRAFFIC.
8. BEARING BAR THICKNESS FOR GRATING TO BE 3/16" MINIMUM.
9. BAND ALL EDGES WITH 3/16 x DEPTH OF BEARING BAR.
10. PROVIDE MISCELLANEOUS GRATING FASTENERS AS REQUIRED.
11. TYPE OF MATERIAL USED SHALL BE AS SHOWN ON PLANS OR AS SPECIFIED. THIS STANDARD DETAIL INCLUDES 3 TYPES, ALTHOUGH ALL 3 MAY NOT BE INCLUDED IN PROJECT.
12. THE HORIZONTAL CLEARANCE BETWEEN THE GRATING AND GRATING SUPPORTS SHALL NOT BE LESS THAN 1/4" NOR GREATER THAN 1/2" AND AS SPECIFIED.
13. ALL GRATING SECTIONS, WHEN IN PLACE, SHALL ALWAYS BE FIRMLY ANCHORED TO THEIR SUPPORTS AS SPECIFIED.

FOOT TRAFFIC GRATING THICKNESS TABLE			
MAXIMUM SPAN	ALUMINUM	STEEL	FIBERGLASS
3'-6"	1 1/4"	1"	1 1/2"

HEAVY TRAFFIC (HS 20-44)		
MAXIMUM SPAN	STEEL	ALUMINUM
1'-0"	2"x3/16"	DO NOT USE ALUMINUM GRATING
1'-8"	2 1/2"x1/4"	
2'-0"	2 1/2"x3/8" OR 3"x1/4"	
2'-6"	3"x3/8" OR 4"x1/4"	
3'-3"	3 1/2"x3/8"	
4'-0"	4"x3/8"	
5'-0"	4 1/2"x3/8"	

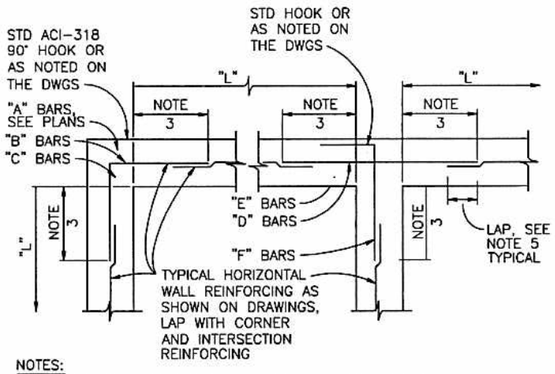
STANDARD GRATING (2)
NTS
H-2-830866
H-2-830868



NOTES:

1. * PROVIDE MINIMUM LAP, SEE (1)
2. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
3. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
4. PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE).
5. FOR OPENINGS LARGER THAN 8'-0", REINFORCE SAME AS FOR 8'-0" OPENINGS.
6. SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER.

OPENING REINFORCING (3)
NTS
H-2-830865
H-2-830868



NOTES:

1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT, FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF L/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2 FEET.
4. L = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.
6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND "F" BARS ARE THE SAME SIZE AND SPACING.

TYPICAL WALL CORNER AND INTERSECTION REINFORCING (4)
NTS
H-2-830866
H-2-830867

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.
0901

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

SAIYUJI GOTO, STATE OF WASHINGTON, 13654, REGISTERED PROFESSIONAL ENGINEER, 02/06/04
EXPIRES 7/27/04

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE	MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES	REV Num	REVISIONS			

NAME	DATE	COMPANY
DRAWN BY S. LATTA	2/04	CH2MHILL
QA/QC APPROVED S. GOTO	2/04	CH2MHILL
DESIGN AUTHORITY E. GROSS	2/19/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

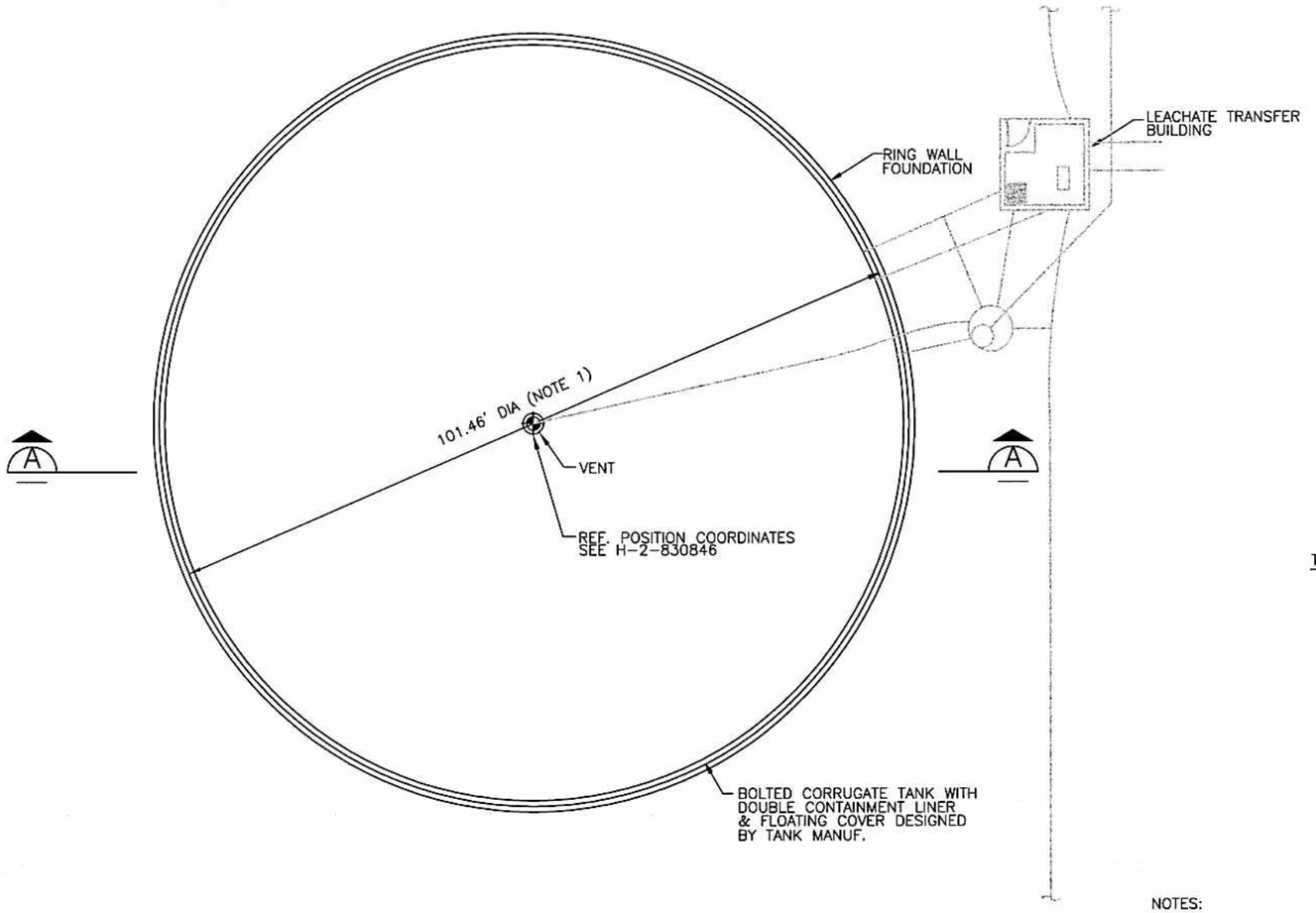
TITLE
IDF
STRUCTURAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	219A 219A1	0901	H-2-830870	A

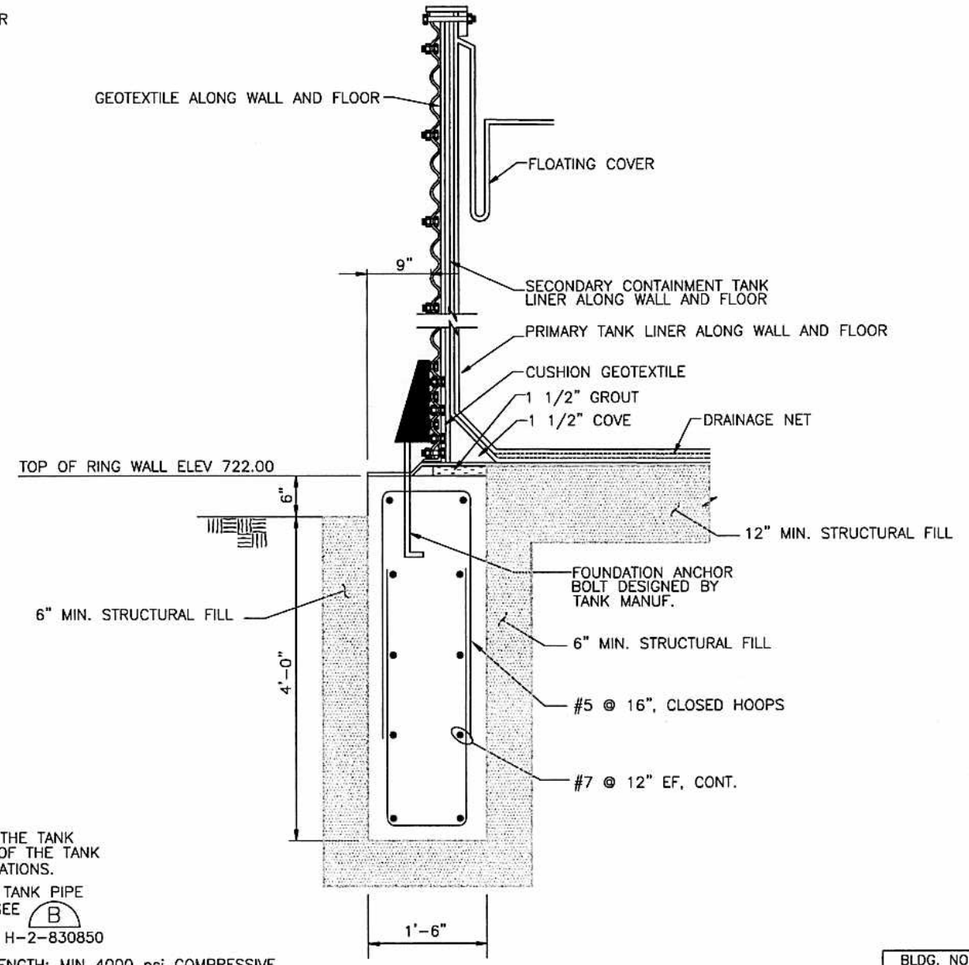
SCALE AS SHOWN | CDT 634144 | SHEET 1 OF 1

XXXX PLOTID XXXX

ORP_TB_D [12-02].DWG



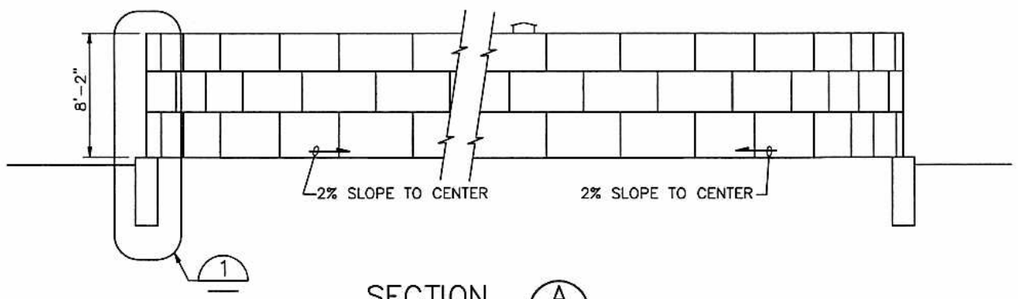
FLOOR AND ROOF PLAN
3/32"=1'-0" TYP FOR 219A201 & 219E201



NOTES:
1. DIAMETER FOR THE TANK REFERS TO ℄ OF THE TANK SHELL CORRUGATIONS.
2. FOR LEACHATE TANK PIPE PENETRATION, SEE (B) H-2-830850
3. CONCRETE STRENGTH: MIN 4000 psi COMPRESSIVE (CLASS 40) @ 28 DAYS

REINFORCING STEEL: ASTM 615, GRADE 60

DETAIL (1)
1"=1'-0"



SECTION (A)
3/16"=1'-0"

BLDG. NO. 219A201 219E201

INDEX NO. 0900

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

SAYNJI GOTO STATE OF WASHINGTON 35654 REGISTERED PROFESSIONAL ENGINEER
02/04/04
EXPIRES 7/27/04

CH2MHILL

NAME	DATE	COMPANY
DRAWN BY R LATTA	2/4/04	CH2MHILL
DFTG APPROVED S. GOTO	2/4/04	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE: IDF LEACHATE TANK FOUNDATION PLAN, SECTION & DETAIL

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	219A201 219E201	0900	H-2-830869	A

SCALE AS SHOWN EDT 634144 SHEET 1 OF 1

DESIGN AUTHORITY E GRIGS 2/4/04 CH2MHILL

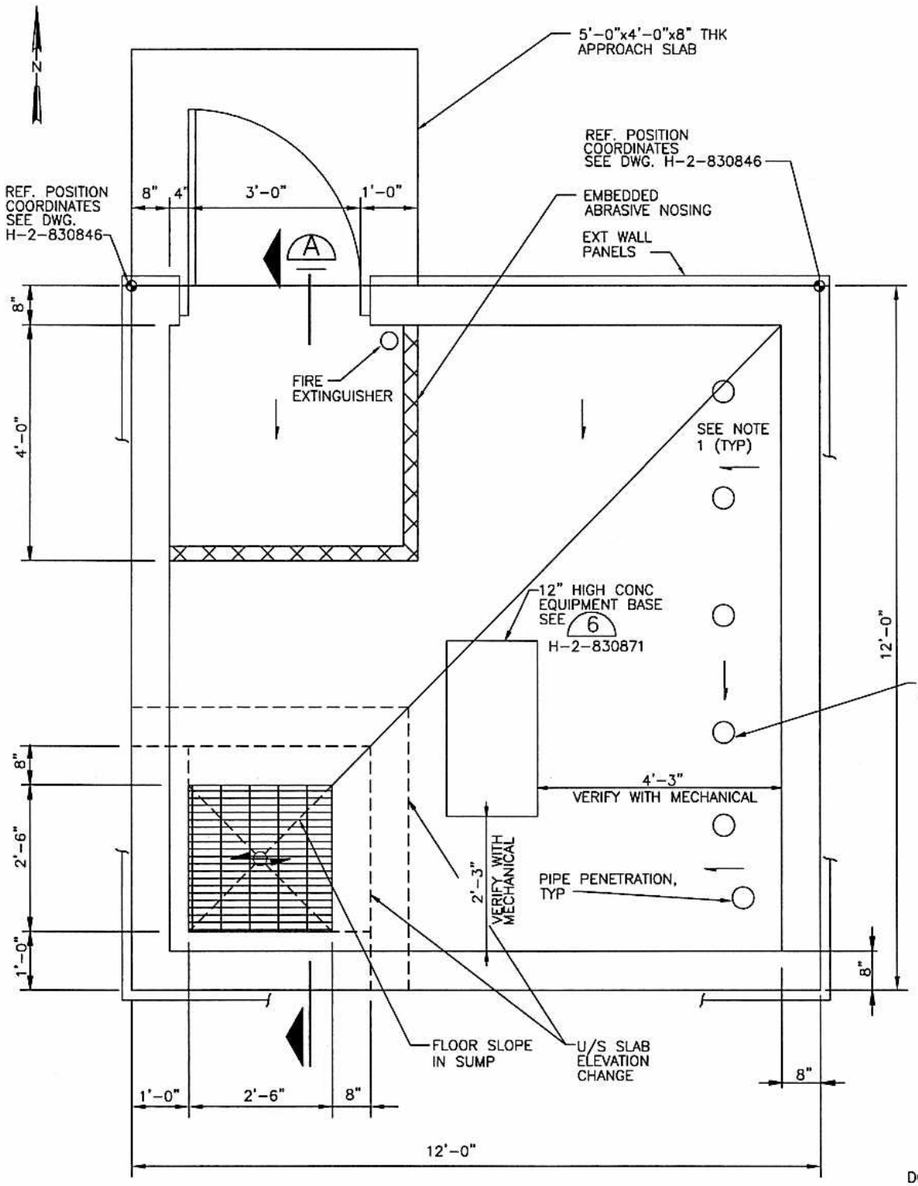
DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD REV INI	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

XXXX PLOTID XXXX

DRP_TB_D (12-02).DWG

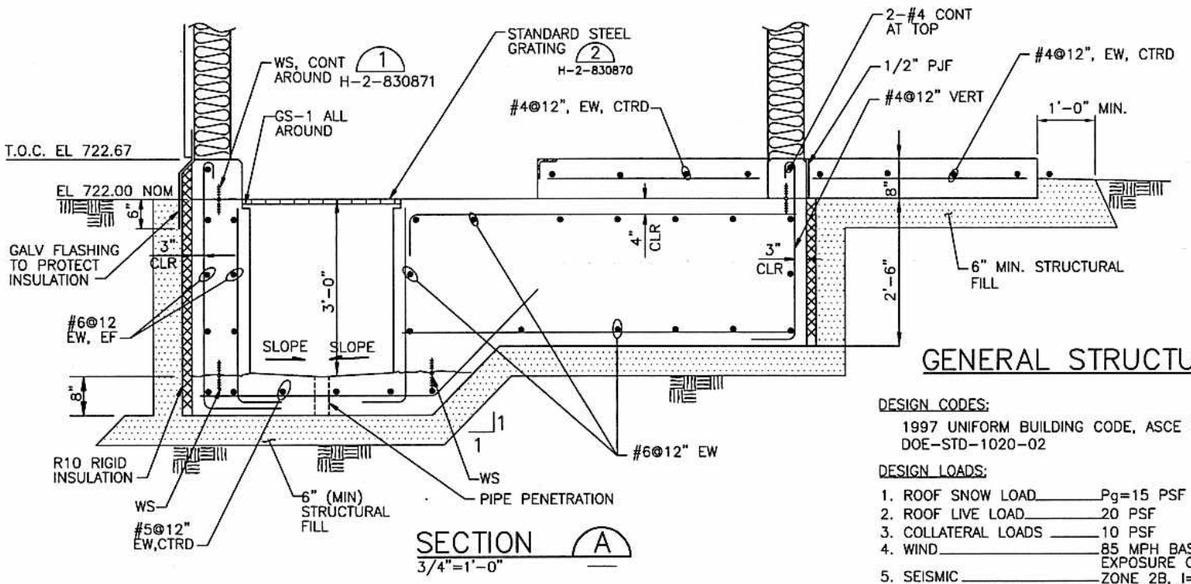


LEACHATE TRANSFER BUILDING

3/4"=1'-0" (TYP FOR 219A1 & 219E1)

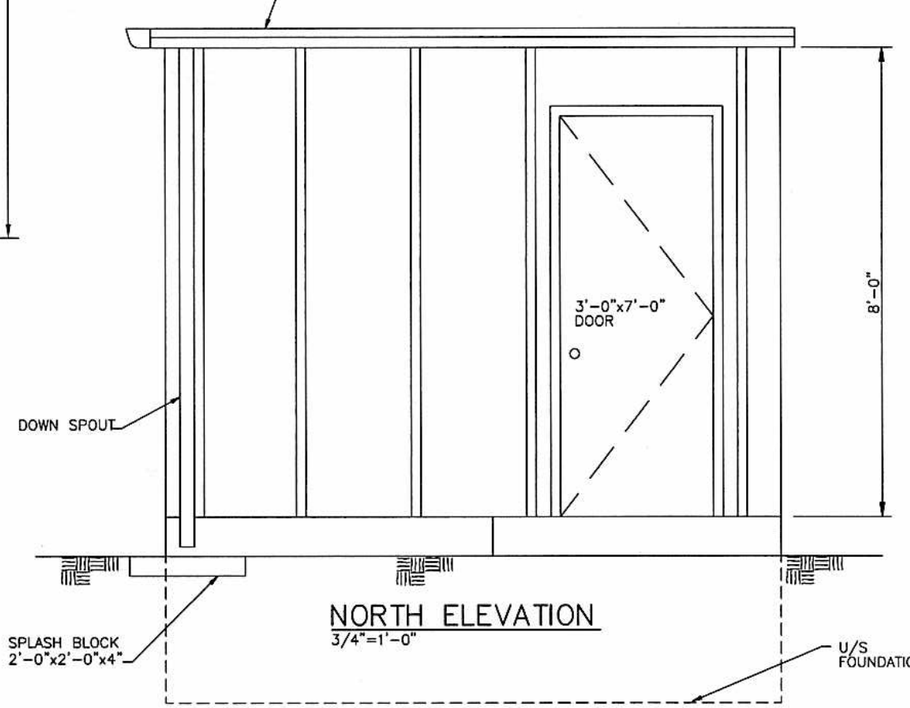
NOTE:

1. MINIMUM SURFACE SLOPE 1/8":12"



SECTION A

3/4"=1'-0"



NORTH ELEVATION

3/4"=1'-0"

GENERAL STRUCTURAL NOTES:

DESIGN CODES:

1997 UNIFORM BUILDING CODE, ASCE 7-98
DOE-STD-1020-02

DESIGN LOADS:

1. ROOF SNOW LOAD ——— Pg=15 PSF
2. ROOF LIVE LOAD ——— 20 PSF
3. COLLATERAL LOADS ——— 10 PSF
4. WIND ——— 85 MPH BASIC SPEED EXPOSURE C, I=1.0
5. SEISMIC ——— ZONE 2B, I=1.0 PERFORMANCE CATEGORY PC-1

FOUNDATIONS:

ALLOWABLE BEARING PRESURE ——— 6800 PSF

MATERIALS

A. CONCRETE STRENGTH: MIN 4000 PSI COMPRESSIVE (CLASS 40) @ 28 DAYS
B. REINFORCING STEEL: ASTM 615, GRADE 60
C. ANCHOR BOLTS: DESIGNED BY MANUFACTURER

PRE-ENGINEERED METAL BUILDING

1. VERIFY ALL DIMENSIONS PRIOR TO PLACING CONCRETE.
2. MINIMUM PLAN DIMENSIONS OF BUILDING SHOWN. MINOR ADJUSTMENTS MAY BE REQUIRED BY THE TYPE OF BUILDING SUPPLIED BY CONTRACTOR.
3. WIDTH OF CURB MAY VARY, VERIFY ACTUAL WIDTH WITH BUILDING SUPPLIER.
4. HVAC SYSTEMS TO BE SUPPORTED BY METAL BUILDING WALL WITH LOCATIONS PER MECHANICAL DRAWING ON H-2-830851. COORDINATE SIZE, LOCATIONS AND OPENINGS (LOUVERS) WITH BUILDING VENDOR.

COATINGS:

1. COAT SLAB AND INSIDE FACE OF CURB AND SUMP SURFACES PER SPECIFICATION 09900, PAINT COATING SYSTEMS.
2. COAT 4" WIDE STRIP ADJACENT EMBEDDED ABRASIVE NOSING ON DOOR LANDING WITH SAFETY YELLOW COLOR.

PIPE PENETRATIONS:

COORDINATE LOCATION OF PIPE PENETRATION WITH MECHANICAL DRAWINGS

MOISTURE PROTECTION:

APPLY BITUMINOUS DAMPPROOFING TO EXTERIOR SURFACES OF THE SUMP WALL.

SHINJI GOTO, STATE OF WASHINGTON, 35654, REGISTERED PROFESSIONAL ENGINEER
02/06/04
EXPIRES 7/27/04

CH2MHILL

BLDG. NO.

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFD REV NO	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
		REVISIONS		

NAME	DATE	COMPANY
DRAWN BY R.LATTA	2/6/04	CH2MHILL
DPTG APPROVED S.GOTO	2/6/04	CH2MHILL
DESIGN AUTHORITY E. DIPPEL	2/9/04	CH2MHILL

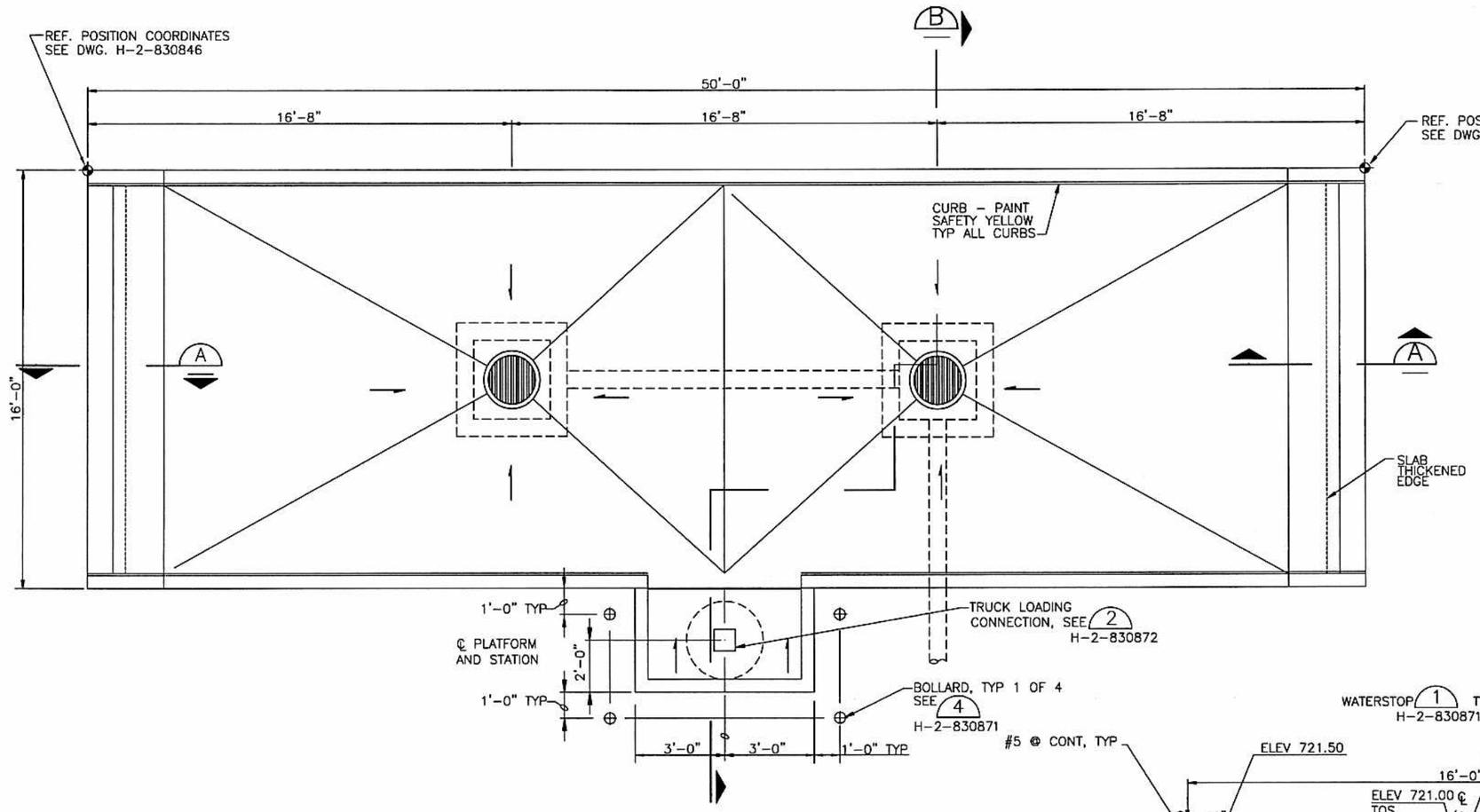
U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
LEACHATE TRANSFER BUILDINGS
PLAN, SECTION & ELEVATION

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	219A1 219E1	0900	H-2-830868	A

SCALE AS SHOWN | EDT 634144 | SHEET 1 OF 1

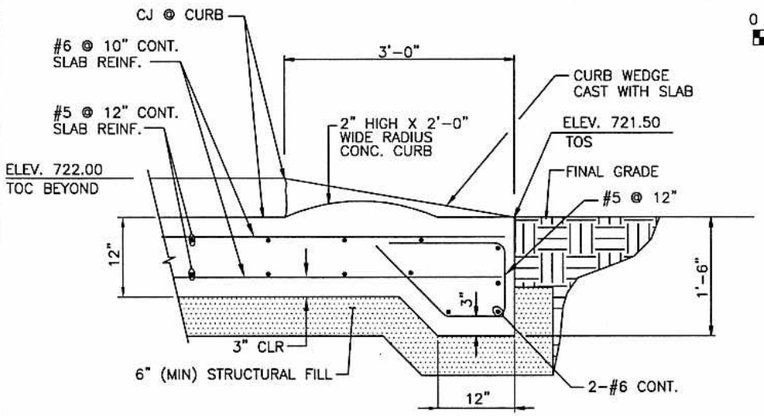
XXXX PLOTID XXXX | ORP_TB_D (12-02).DWG



TRUCK LOADING STATION FOUNDATION

3/8"=1'-0" (TYP FOR CELL ① & CELL ②)

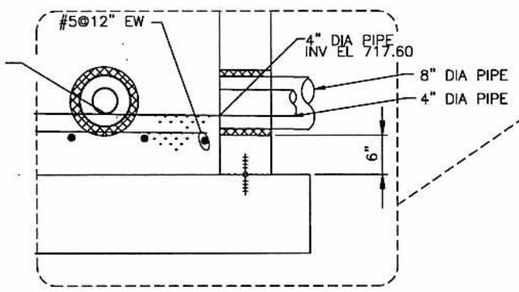
0 2 4 6
Scale In Feet



SECTION A

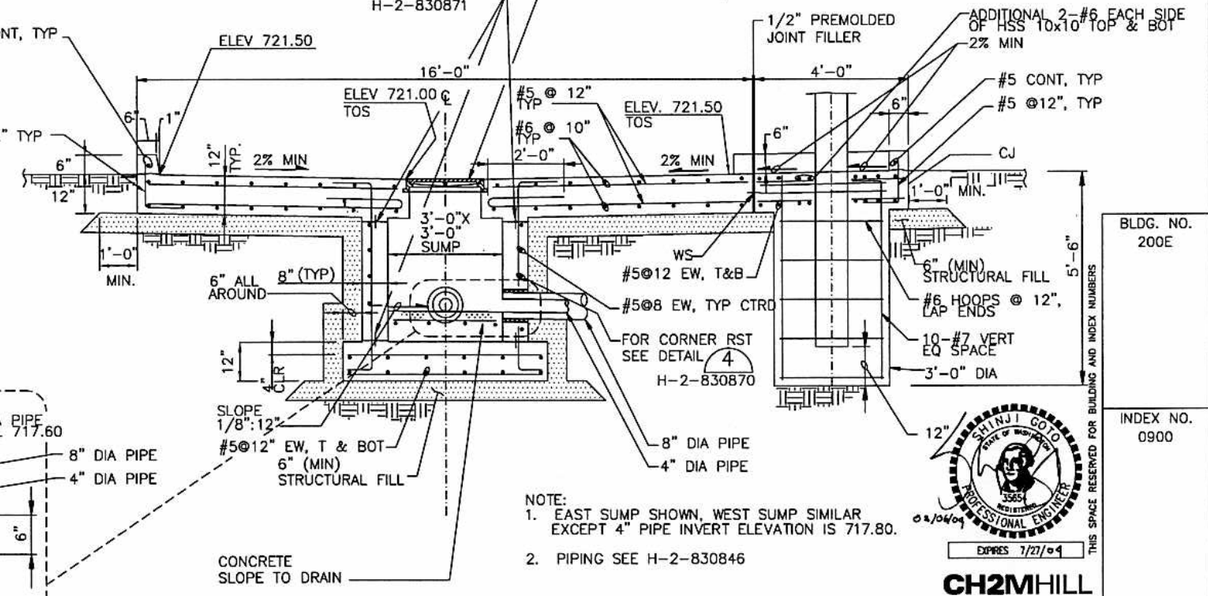
1"=1'-0"

0 1 2 3
Scale In Feet



SECTION B

1/2"=1"



NOTE:
1. EAST SUMP SHOWN, WEST SUMP SIMILAR EXCEPT 4" PIPE INVERT ELEVATION IS 717.80.
2. PIPING SEE H-2-830846

NOTES:

LOADS:

TRAFFIC LOAD: HS20-44 (AASHTO STANDARD CODE)

MATERIALS:

A. CONCRETE STRENGTH: MIN 5000 PSI COMPRESSIVE (CLASS 50) @ 28 DAYS
B. REINFORCING STEEL: ASTM 615, GRADE 60
C. PREMOLDED JOINT FILLER (PJF) SHALL BE BITUMINOUS TYPE (ASTM D994 OR D1751)

COATINGS:

COAT SLAB, INSIDE FACE OF CURB AND SUMP SURFACES PER SPECIFICATION 09900, PAINT COATING SYSTEMS.

MOISTURE PROTECTION:

APPLY BITUMINOUS DAMPROOFING TO EXTERIOR SURFACES OF THE SUMP WALL.

BLDG. NO. 200E

INDEX NO. 0900

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

SHINJI GOTO STATE OF WASHINGTON 35654 REGISTERED PROFESSIONAL ENGINEER
02/04/09
EXPIRES 7/27/09

CH2MHILL

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFD REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

NAME	DATE	COMPANY
DRAWN BY R LATTA	2/4/09	CH2MHILL
DPTG APPROVED S GOTO	2/4/09	CH2MHILL
DESIGN AUTHORITY E GROSS	2/19/09	CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

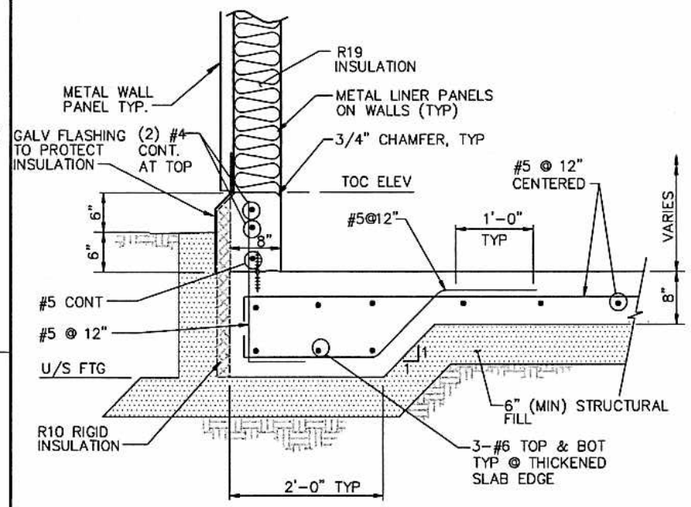
TITLE
IDF
TRUCK LOADING STATIONS
PLAN AND SECTIONS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	200E	0900	H-2-830867	A

SCALE AS SHOWN | EDT 634144 | SHEET 1 OF 1

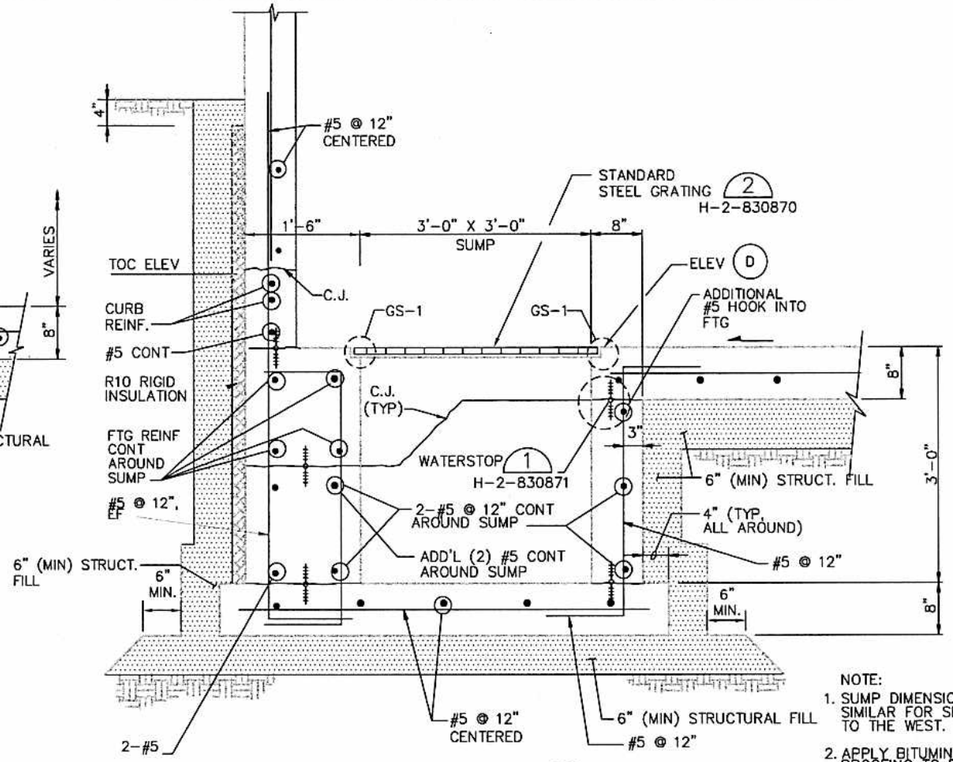
ORP_TB_D [12-02].DWG 1

XXXX PLOTID XXXX



SECTION A
1"=1'-0" H-2-830865

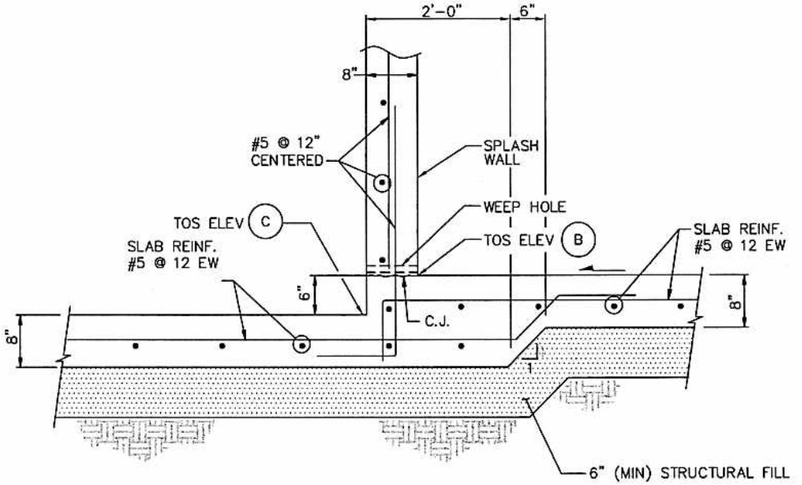
0 1 2 3
Scale In Feet



SECTION B
1"=1'-0" H-2-830865

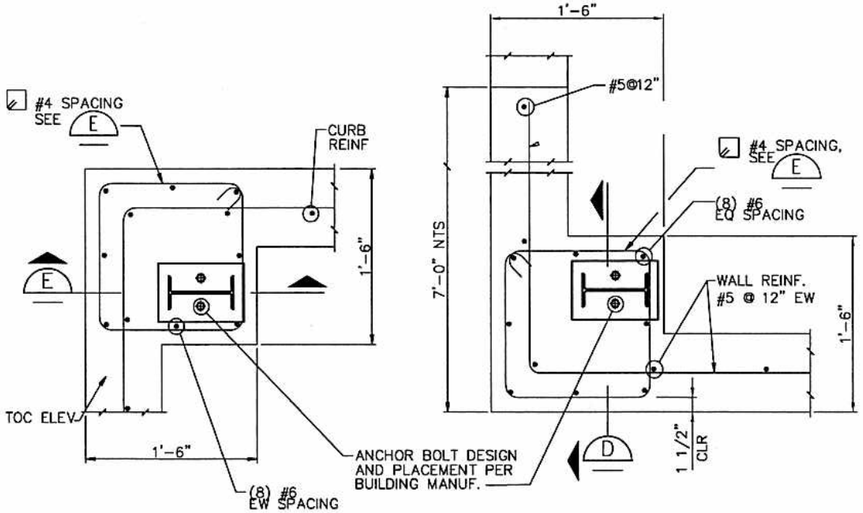
0 1 2 3
Scale In Feet

NOTE:
1. SUMP DIMENSION AND REINF SIMILAR FOR SECTION CUT TO THE WEST.
2. APPLY BITUMINOUS DAMP PROOFING TO EXTERIOR SURFACES OF THE SUMP WALL



SECTION C
1"=1'-0" H-2-830865

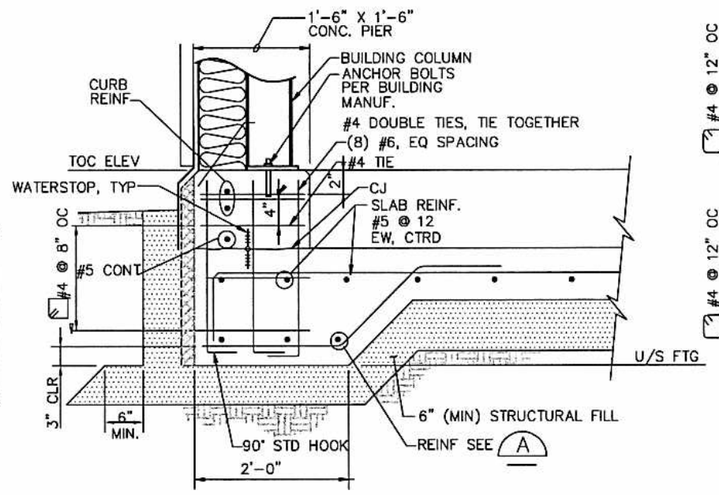
0 1 2 3
Scale In Feet



DETAIL 1
1 1/2"=1'-0" H-2-830865

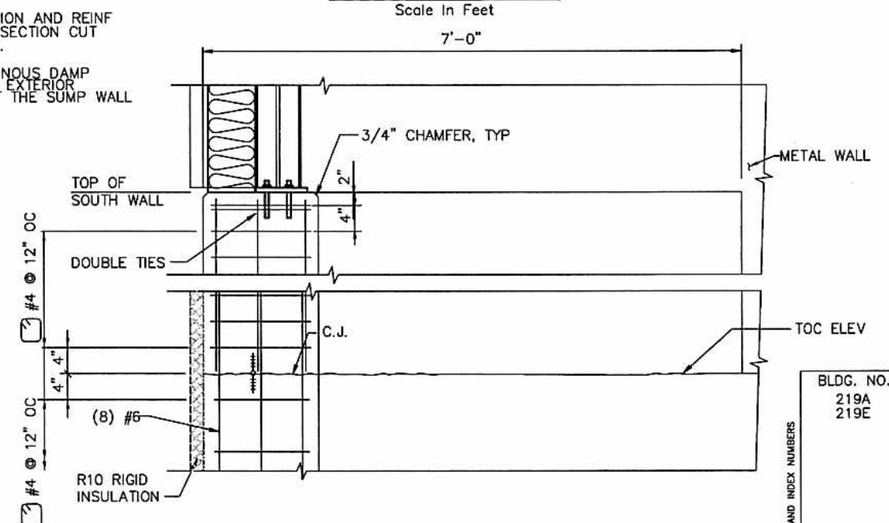
DETAIL 2
1 1/2"=1'-0" H-2-830865

0 1 2 3
Scale In Feet



SECTION E
1"=1'-0"

0 1 2 3
Scale In Feet



NOTE:
FOR ADD'L INFORMATION SEE SECTION E

SECTION D
1"=1'-0"

0 1 2 3
Scale In Feet

BLDG. NO. 219A 219E

INDEX NO. 0901

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BHINJI GOTO — STATE OF WASHINGTON — 35864 REGISTERED PROFESSIONAL ENGINEER — 01/06/04 — EXPIRES 7/27/04

CH2MHILL

DRAWING TRACEABILITY LIST		REFERENCES		REVISIONS					
DWG NO	TITLE	REF NUMBER	TITLE	MFD REV Ref	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY	
		NEXT USED ON							

NAME	DATE	COMPANY
DRAWN BY R LATTA	2/6/04	CH2MHill
DPTG APPROVED S GOTO	2/6/04	CH2MHill
DESIGN AUTHORITY E GRIGG	2/9/04	CH2MHill

U.S. DEPARTMENT OF ENERGY
Office of River Protection

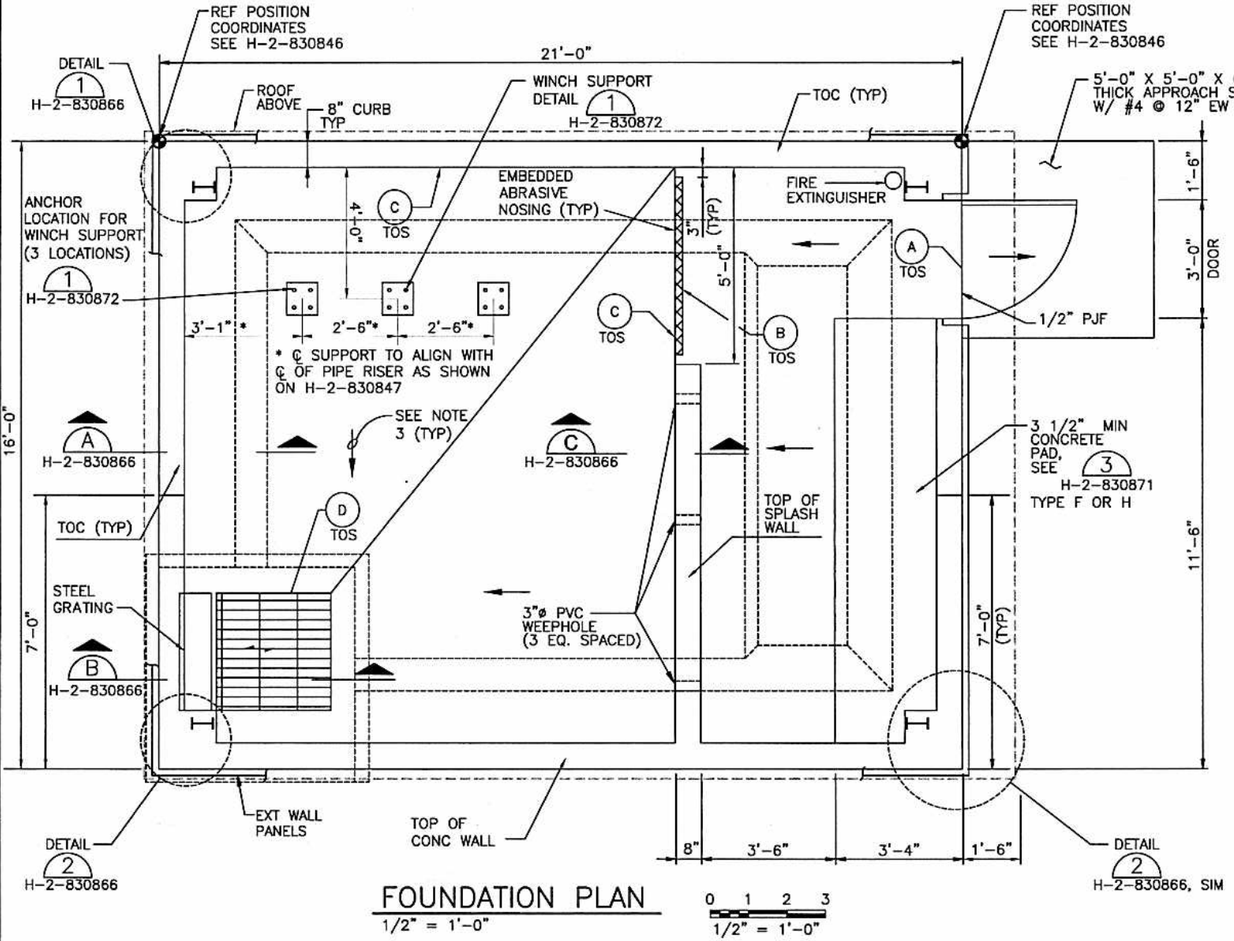
TITLE
IDF
CREST PAD BUILDINGS
SECTIONS AND DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	219A 219E	0901	H-2-830866	A

SCALE AS SHOWN EDT 634144 SHEET 1 OF 1

XXXX PLOTID XXXX

ORP_TB_D [12-02].DWG

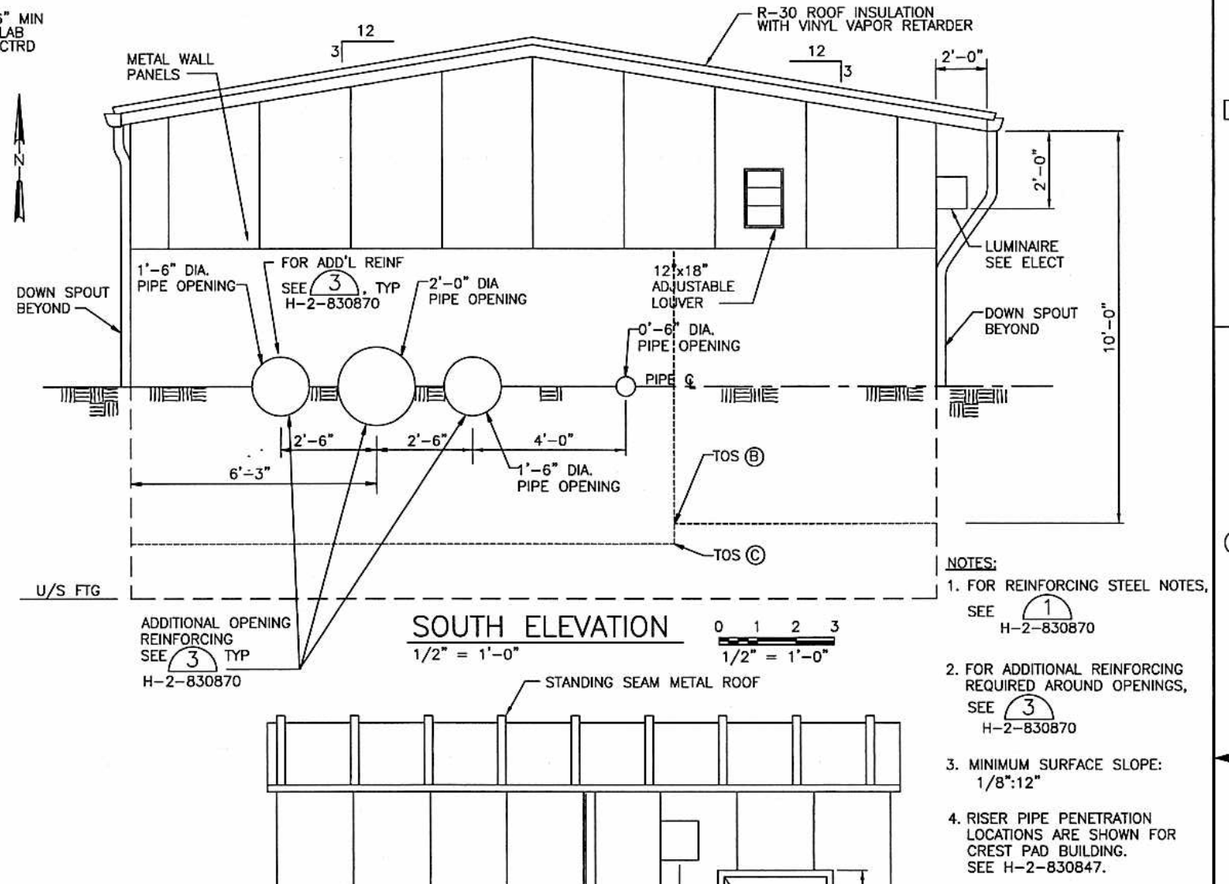


FOUNDATION PLAN

1/2" = 1'-0"

0 1 2 3

1/2" = 1'-0"

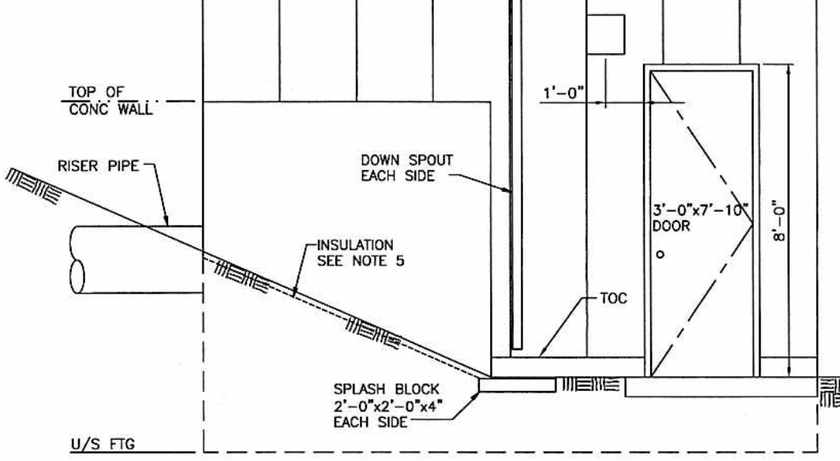


SOUTH ELEVATION

1/2" = 1'-0"

0 1 2 3

1/2" = 1'-0"



EAST ELEVATION

1/2" = 1'-0" (WEST ELEVATION SIMILAR)

0 1 2 3

1/2" = 1'-0"

NOTES:

1. FOR REINFORCING STEEL NOTES, SEE 1 H-2-830870
2. FOR ADDITIONAL REINFORCING REQUIRED AROUND OPENINGS, SEE 3 H-2-830870
3. MINIMUM SURFACE SLOPE: 1/8":12"
4. RISER PIPE PENETRATION LOCATIONS ARE SHOWN FOR CREST PAD BUILDING. SEE H-2-830847.
5. INSULATION ON OUTSIDE FACE OF FOUNDATION/WALL SHALL TERMINATE 4" BELOW GRADE ALONG CONC WALL AND AT THE TOC ELSEWHERE.

GENERAL STRUCTURAL NOTES:

DESIGN CODES:

1997 UNIFORM BUILDING CODE, ASCE 7-98
DOE-STD-1020-02

DESIGN LOADS:

1. ROOF SNOW LOAD _____ Pg=15PSF
2. ROOF LIVE LOAD _____ 20 PSF
3. COLLATERAL LOADS _____ 10 PSF
4. WIND _____ 85 MPH BASIC SPEED EXPOSURE C, I=1.0
5. SEISMIC _____ ZONE 2B, I=1.0 PERFORMANCE CATEGORY PC-1

FOUNDATIONS:

ALLOWABLE BEARING PRESSURE _____ 6400 PSF

MATERIALS

A. CONCRETE STRENGTH: MIN 4000 PSI COMPRESSIVE (CLASS 40) @ 28 DAYS
B. REINFORCING STEEL: ASTM 615, GRADE 60
C. ANCHOR BOLTS: DESIGNED BY BUILDING MANUFACTURER

PRE-ENGINEERED METAL BUILDING

1. VERIFY ALL DIMENSIONS PRIOR TO PLACING CONCRETE.
2. MINIMIUM PLAN DIMENSIONS OF BUILDING SHOWN. MINOR ADJUSTMENTS MAY BE REQUIRED BY THE TYPE OF BUILDING SUPPLIED BY CONTRACTOR.
3. WIDTH OF CURB MAY VARY, VERIFY ACTUAL WIDTH WITH BUILDING SUPPLIER.
4. HVAC SYSTEM TO BE SUPPORTED BY METAL BUILDING WALL WITH LOCATIONS PER MECHANICAL DRAWING ON H-S-830847. COORDINATE SIZE, LOCATIONS AND OPENINGS (LOUVERS) WITH BUILDING VENDOR.
5. CONSTRUCTED AND DESIGNED WITH RIGID FRAME AND NO BRACING IN WALLS.

COATINGS:

COAT SLAB EXTEND COATING 6" UP THE WALL AND CURB AND SUMP SURFACES PER SPECIFICATION 09900, PAINT COATING SYSTEMS.

CREST PAD BUILDING ELEVATIONS

NAME	219A	219E
FINAL GRADE		
Ⓐ	724.00	724.00
Ⓑ	723.92	723.92
Ⓒ	723.42	723.42
Ⓓ	723.25	723.25
TOP OF CURB (TOC)	724.50	724.50
TOP OF SPLASH WALL	731.00	731.00
TOP OF CONC WALL	731.00	731.00
PIPE ℄	727.00	727.00
U/S FTG	721.50	721.50

ABBREVIATIONS:

TOS = TOP OF SLAB
TOC = TOP OF CURB

DRAWING TRACEABILITY LIST		REFERENCES	
DWG NO	TITLE	REF NUMBER	TITLE
		NEXT USED ON	

REVISIONS				
MFD REV Rel	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY

NAME	DATE	COMPANY
DRAWN BY R. LATTA	2/6/04	CH2MHill
DSGN APPROVED R. GOTO	2/6/04	CH2MHill
R. GOTO		
DESIGN AUTHORITY E. GRIGGS	2/9/04	CH2MHill

BHANU GOTO — STATE OF WASHINGTON — 35654 — REGISTERED PROFESSIONAL ENGINEER — 02/04/04 — EXPIRES 7/27/04

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

BLDG. NO. 219A 219E

INDEX NO. 0900

CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

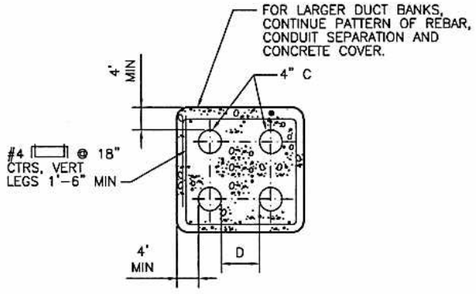
TITLE
IDF
CREST PAD BUILDINGS
PLAN AND ELEVATIONS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D	219A 219E	0900	H-2-830865	A

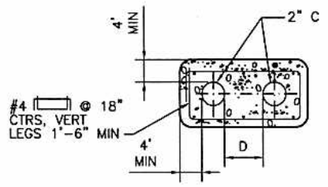
SCALE AS SHOWN EDT 634144 SHEET 1 OF 1

XXXX PLOTID XXXX

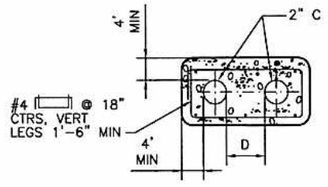
DRP_TB_D [12-02].DWG



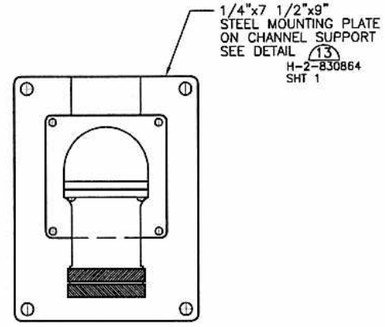
DUCT BANK SECTION (L)
NTS H-2-830858 SHT 2



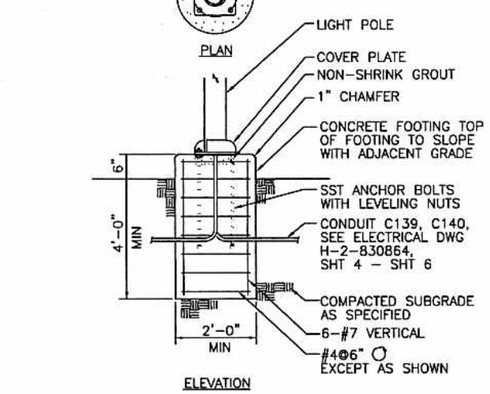
DUCT BANK SECTION (M)
NTS H-2-830858 SHT 1, SHT 2



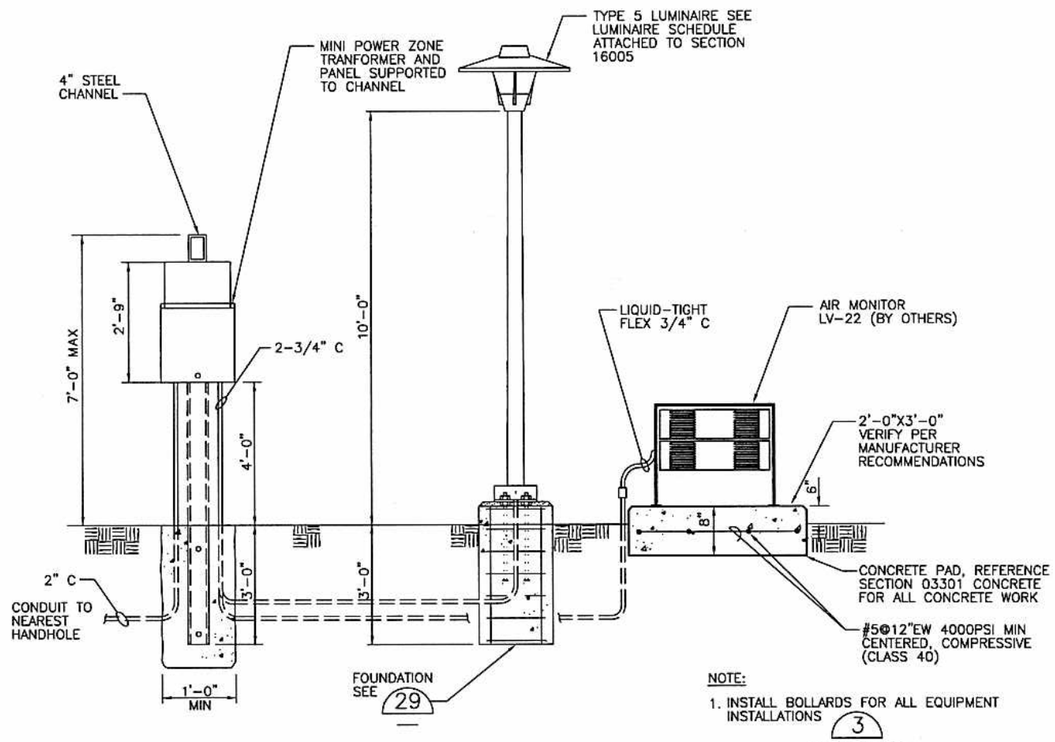
DUCT BANK SECTION (N)
NTS H-2-830858 SHT 1, SHT 2



PORTABLE GENERATOR PLUG (O)
NTS H-2-830860



LIGHTING DETAIL (29)
NTS H-2-830858 SHT 1



NOTE:
1. INSTALL BOLLARDS FOR ALL EQUIPMENT INSTALLATIONS (3) H-2-831135

DETAIL AIR MONITORING EQUIPMENT (28)
NTS H-2-830858 SHT 2

DRAWING TRACEABILITY LIST		REFERENCES	
DWG NO	TITLE	REF NUMBER	TITLE
		NEXT USED ON	

REVISIONS				
MFD REV No	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY

	NAME	DATE	COMPANY
DRAWN BY	L. WAGNER	02/06/04	CH2MHILL
DSN APPROVED	L. FOX	02/06/04	CH2MHILL
DESIGN AUTHORITY	ERIC CRAIG	2/19/04	CH2MHILL

BLDG. NO.
219A
219A1
219A201
219E
219E1
219E201

INDEX NO.

THIS SPACE RESERVED FOR BUILDING AND INDEX NUMBERS

02/06/04 LAWRENCE GERARD FOX STATE OF WASHINGTON 35278 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/18/05

CH2MHILL

U.S. DEPARTMENT OF ENERGY
Office of River Protection

TITLE
IDF
ELECTRICAL DETAILS

SIZE	BLDG NO	INDEX NO	DWG NO	REV
D		7301	H-2-830864	A

SCALE NONE | KDT 634144 | SHEET 7 OF

XXXX PLOTID XXXX

ORP_TBLD [12-02].DWG